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THIS is the first MacAlister lecture of the London Clinical Society, and I wish someone more worthy than myself stood here to deliver what is intended to honour the memory of him who left us so recently. Amongst those glowing tributes which were collected into a little book last year for the comfort of his family and his friends occurs the phrase: "Something should be done to perpetuate so fine and beautiful a character." He who said this, one of his most constant associates, doubtless had in mind a larger and more worthy monument than the foundation of this lectureship. Yet I feel that, had he known that the London Clinical Society proposed to show him this special token of esteem and respect, it would have brought him a quiet sense of satisfaction. As to the larger and more worthy monument, that we have already—a monument erected in his lifetime, and very largely as the result of his own patient and indefatigable efforts. I refer, of course, to the Royal Society of Medicine. Of this lectureship, as of the glowing tributes to which I have referred, he knew nothing. But he must have looked again and again at the fine building which houses the Society, must have pondered its meaning, and all it stands for in medicine, and must have rejoiced that the fruit of his labours ripened and was gathered in his lifetime. It is given to very few to see their work crowned in so magnificent a manner, and it must greatly comfort those whom he left behind to realise that he saw with his own eyes the superstructure, as well as the stone which was so well and truly laid long years before.

That great physician, Osler, said of Sir John MacAlister that he had done more for medicine than any medical man had ever done. No tribute could better express what we all feel to-day, and what all who care to read the history of medicine in this country, even in generations to come, will feel concerning him whom we are met here this evening to honour. It may perhaps be allowed to one who follows Osler a long way off to refer to a long and always happy association with MacAlister, and to add one more personal testimony to his unfailing helpfulness and to his constant loyalty. So urbane and so patient was he that he never let even the most junior of the Fellows of his Society realise how trivial were some of the matters taken into his room. The applicant for advice or for assistance always left his presence with self-respect unimpaired; and many times, *too* many times—the vanity of youth considered—with an added sense of importance of the matter discussed. His encouragement was one of the most stimulating things in my life, and will never be forgotten. How many hundreds there are who would say the same, were they standing here to-night and enjoying this great privilege that has been given to me.

THE IMPORTANCE OF DIET.

I have chosen a very commonplace subject for my lecture to-day. It is perhaps well sometimes to speak of commonplace things in medicine and, after all, it is the commonplace things that are the most important. It is a little significant that so long as a man is well he does not regard diet as being an important factor in health, whereas once he is ill, and whatever be the nature of his illness, he immediately considers it the most important factor of all. As is usually the case, both attitudes exaggerate the real facts: diet *is* important as a means of keeping healthy, and it is not nearly so important a therapeutic measure in disease as the lay mind imagines. The old adage, ascribed to Swift, which states that the three best doctors are "Dr. Diet, Dr. Quiet, and Dr. Merry Man," might refer quite as truthfully to the preservation of health as to the cure of disease.

It is always a difficult problem for the doctor who inculcates principles of hygiene to steer between the rocks of too much indifference on the one hand, and too much meddlesomeness on the other. We frequently see wreckages as the result of ignorance or of prejudice taking the helm during this voyage. If I say little or nothing this evening that is novel, it is because of my desire to avoid another wreck. The barque in a precious one, and I would much rather proceed a very little distance, and leave the ship in mid-stream, than boldly forge ahead when not quite certain of the course. There is even another contingency to remember: the sea may be so turbulent, and exact knowledge of the situation of the rocks so uncertain, that there may be no little virtue in keeping the vessel very much where the pilot found it, especially if the bearings are taken, and are made available for the next man who holds the helm. I say this to anticipate disappointment. I am not sure that I am going to do anything more this evening than to take soundings and hope to keep the ship in the fairway.

MODERATION.

As I have said, we are rarely consulted by healthy folk concerning their diet. Even if we were, I am not sure we could tell them very much that they do not already know. I am not speaking of the feeding of babies, which is, of course (or was, until recent years), a matter of special ignorance. Given that the quality of food is good—that it is free from adulteration—and that it is properly prepared for eating, whether by cooking or otherwise, the major part of our advice to the healthy person would probably turn upon quantity. And though we did not use the words, temperance or moderation would really be the key to what we said. And here, perhaps it is well to reiterate a truism—that temperance is not abstinence, and not even parsimony. Milton, in Comus, speaks of all the world feeding on pulse "in a pet of temperance," and it must be confessed that many so-called temperance advocates are a little inclined to be "hot" about their exhortations. But to quote Milton again:—

> "If thou well observe
> The rule of 'not too much,' by temperance taught
> In what thou eat'st and drink'st, seeking from thence
> Due nourishment, not gluttonous delight,
> Till many years over thy head return;
> So mayst thou live, till, like ripe fruit, thou drop
> Into thy mother's lap, or be with ease
> Gather'd, not harshly plucked, in death mature.
> Temperate in every place—abroad, at home,
> Thence will applause, and hence will profit come;
> And health from either he in time prepares
> For sickness, age, and their attendant cares."

That most people eat too much will scarcely be gainsaid. Judged by the known number of calories that the engine requires for efficient work, this is certainly the case. And yet there is no general consensus of opinion as to what this requirement in calories actually is. We have been through a period, enforced by war, when parsimony in this respect gave us an object-lesson which nothing else could well do. There are many fallacies in the conclusions to be drawn, but on the whole there seems agreement that health all round was not much, if at all, prejudiced by the reduction in food calories. Such disabilities as did occur were probably attributable to qualitative rather than quantitative causes. It is taught that there are many conditions that should influence diet, especially in regard to this question of quantity. The nature of a man's work is generally said to be one of the most important of these. It is said that the brain worker requires less food than the manual worker, and that this fact has been established experimentally. I have read the experiments and I am not impressed by them. I do not think it is possible to get satisfactory conditions for such

experiments. Brain work is such an individual thing. One man sits quietly, with very little muscular movement, working out a mathematical problem by the hour. These, by the way, are the conditions generally chosen for such experimental observations as I have spoken of. Another man, active by nature, is alert, talks and moves about, yet, like the other, is doing brain work. It is quite likely that the food calories required by the latter example of brain worker will approximate nearer to the labourer than will those required by the former. If appetite be a guide to food requirement, and it certainly is in health, then it is a fact that many brain workers require quite as much food as many manual workers. That the brain worker does better work with small meals than with large ones is a trite statement; but this refers only to the period of his actual work. That he benefits by a larger meal when his work is done, always provided he be not overtired, many will agree from their own experience. But I think this applies to the manual worker also. A prudent man will adapt his meals to his work rather than his work to his meals, though it probably tends to the greatest efficiency to do both of these things. Thus, some men who take care to economise in regard to these matters choose relatively slight tasks to follow the midday meal—assuming there be a choice, as there often is. This is but a corollary to the ancient boast attributed to Socrates, who said, "Other men live to eat, but I eat to live."

FASTING.

There has of late been quite a little boom in the direction of fasting, and this may perhaps be considered in relation to the quantity of food, since to eat nothing at all is, strictly speaking, a quantitative business. I am prepared to admit the value of fasting for short periods in certain diseases, but in the absence of disease I have never seen any good results from it which may not be obtained by less drastic means. I think there is value in the occasional missing of a meal, or in the substitution for a meal—most conveniently and helpfully the midday meal—of a few biscuits and a piece of chocolate. But the more elaborate and prolonged process of actual fasting which is sometimes advocated, and which requires, for its proper carrying out, a complete or a partial cessation from active work, has never seemed to me to promise any real benefits. The necessary inactivity is clearly uneconomical, and the method is therefore only practicable for the non-workers (with whose diet we need not seriously concern ourselves), or for the worker during vacation times. I do not believe that fasting is of value to the healthy person in the long run. As I have said elsewhere, I fear the pride which follows the pursuit of any such dramatic measure, to say nothing of the risk that so great an exercise of restraint might lead a man to think that subsequent indulgence is safe; for human nature is very frail. Surely it is better to adopt a régime to which one submits not uncomfortably, than to endeavour to enforce one which appeals as a series of unnatural denials. As I have already said, even a three days' fast, however thrilling an experience this may prove for the leisured man, is fraught with much inconvenience, and not a little sacrifice of efficiency, to the occupied one.

In some diseases, as I have hinted, a short fast, the patient remaining in bed the while, and undergoing a preliminary purgation, is often beneficial. Of general diseases arterio-sclerosis and hyperpiesis are examples. The periodic fast-day in the treatment of diabetes, euphemistically termed by some a day of "alimentary rest," has more than justified itself in certain cases. The French method of treating acute appendicitis and some other inflammations connected with the alimentary tract by several days' fasting, allowing only water to drink, is well known.

MEALS AND FATIGUE.

In regard to the times of eating, custom dictates three meals a day, and this fits clearly with known facts regarding the physiology of the stomach. It also splits the working day into convenient and economic periods, allowing the meal times to synchronise with rest-times from work. The injunctions not infrequently heard, to make a habit of going without breakfast, or without lunch, and the declarations of unusual fitness to be derived therefrom are, doubtless, in the main, experiments in individual psychology, with the attendant benefits about to be referred to in connexion with such experiments. I doubt very much if, in the long run, the two-meals-a-day man scores anything in efficiency or in health over his more ordinary brother. I am speaking now of routine, not of the occasional missing of a meal, of the benefits of which I have already spoken.

Fatigue of an unusual kind makes the consumption of a full meal very inadvisable. This is common knowledge, yet one frequently sees the crime committed, with due penalty imposed by nature. Fatigue, exposure to cold, and a heavy meal—these three things coinciding, form quite a common piece of history in the evolution of a number of acute diseases. I need not enter into the explanation. The method of feeding appropriate to excessive fatigue is that which is applicable to a return from fasting—small, warm, and easily digested feeds. The busy doctor, home late from his day's work, "thoroughly done," has had his dinner "kept hot" for him. A solicitous wife has heaped the plate all too generously—for to "feed the brute" is still regarded as a mark of affection—the oven has been rather too hot, or not quite hot enough (either defect contributes its corresponding element of indigestibility to the pile of meat, vegetables, sauce, and gravy), and the weary man "lets himself go" upon the mass. Result, a period of gastric stasis, a restless night, and perhaps all manner of subsequent disabilities. How much better to have given the official dinner a "pass" and substituted a small basin of bread and milk.

There is an affinity between sleep and eating, in the sense that, for efficiency, one is vicarious in respect of the other. The less sleep, the more is food necessary; the more sleep available, the less food needed. The doctor who sits up all night with his patient and then has the good fortune to get a long night's rest next day knows the truth of this statement.

AGE AND SEX.

There seems little doubt that age should affect our views upon diet, and especially in regard to the quantity of food. We should "play for safety" in children, and in all persons at a period of growth, allowing a liberal measure. I remember reading the lengthy report of a pathologist, who obviously had marked views on the subject, in which he attributed some visceral troubles in a man of 40 years to the fact that his mother "fed him up" at the age of 14, when he was convalescing from an attack of measles. I was not at all convinced. At the other end of life, however, there is no doubt that both the amount of food, and the frequency of taking it, can ofttimes be reduced with advantage. There is an old proverb which reads: "Who steals an old man's supper does him no harm," and the sense of the saw fits well with experience. The well-known injunction of Bacon is often quoted in this connexion: "Discerne of the coming of the years, and think not to do the same things still, for age will not be defied!" Dr. Robert Hutchison reminds us that whereas leanness and longevity go together, "a man will only roll all the faster down the hill of life if his figure be rotund." It is necessary to beware, however, the tendency of old people to dictate to those who are younger, and to preach a regimen for them that they find by experience well suited to themselves.

As regards sex there is not much to say. There is general agreement that, other things being equal, the female needs less calories than the male. But this consideration probably does not apply to the period of growth. If so, the individual

requirement may be the opposite of the general rule, and I think this is true. As to frequency, experience suggests that women need feeding at shorter intervals than men; but here, as so often, there are great individual differences seen. There appears to be a definite physiological necessity involved in the early afternoon tea which most women require for the efficient working of at least the nervous part of their economy. No man who loves peace in his home will make it difficult for this meal to be punctual, whether he shares it or not.

INDIVIDUAL NEEDS AND THE EVANGELICAL DIETIST.

The individual factor in dietetic requirements is a very large one, and there are many fallacies entering into the argument of personal experience as a guide to diets for all and sundry. So often we hear a patient say that he pursued a certain line of diet on the advice of a friend, but that it did not suit him; or we are asked if such and such a line of diet is likely to prove beneficial. It is a futile business from the first. The patient is perhaps a brain worker with a large output of highly responsible and technical work; his friend is a dilettante with a small output which involves no issues to speak of and is devoid of meaning. The patient is tall and lean and suffers from neurasthenia; the friend is short and stout and has a high blood pressure. These are but a few of the possible fallacies. There are many others. There are fallacies of race, of climate, of occupation, of habit. What boots it to the citizen of twentieth-century London that the Eskimo lives on a pound or two of blubber daily, that the Hindoo exists on rice, or even that the Scottish crofter manages to live and work on oatmeal? (As a matter of fact he does not live on oatmeal; he lives on oatmeal and milk, but the milk is conveniently—I must not say unscrupulously—omitted to serve a favourite thesis.) We ought to distrust all these stupid so-called arguments.

There is the constitutional fallacy, too. "Look at me," says the advocate of some dietetic fad, "see how fit I am." Very often he is fit in spite, and not because of, his cranky diet. He was *made* fit, and nature's almost infinite capacity for adaptability enables him still to remain fit, his odd dietetic rules notwithstanding. There are some folk who are so fit by nature that good health almost hurts them; it is a positive danger. There are others who only attain, and keep, fitness by a constant struggle. "Do you not think, doctor," said a woman, the very sight of whose robustness made it evident that she belonged to the former class, "that it would help my husband if he were a vegetarian, as I am?" The husband was small, weakly, and full of minor disabilities of a nutritional kind. "Madam," I said, risking a mortal offence, "I perceive that you can afford to be a vegetarian." It is as old as Lucretius, probably older still, that "one man's meat is another man's poison"—*rank* poison, Lucretius is reputed to have said. The dictum has been restated by many wise men down the ages.

Then there is the psychological fallacy, at which I have already hinted; it is a very large and very common one. The man with a theory—if odd notions about diet may be distinguished by so scientific a term—is already half way towards a successful experience. He attributes to his practice what is really due to his enthusiasm. He has the endurance of the martyr and he burgeons upon his idea rather than upon his regimen. The fakir fasts for weeks, and appears to thrive; he is filled by a fervid afflatus which gives him unnatural strength. But the plague seizes him and he falls a ready victim. True, he succeeds, because he enters his paradise a conqueror of the flesh. But this is neither medicine nor science. It has been my experience to meet several strange advocates of great parsimony in diet. One was a writer of some distinction; I can see him now, pacing up and down my consulting-room, waxing eloquent anent the clear vision and the spirituality of thought which he secured as the result of semi-starvation. I was able to recognise in his eye and manner an ecstasy which, I have little doubt, was not unrelated to his felo-de-se, which I saw recorded years afterwards in the papers as having taken place in America. I have helped to resuscitate from states of inanition two of our own profession, loud and influential exponents of diets in which the *maigre* element was paramount. One of them was fed every two hours on beef-tea, fortified by raw meat-juice, until the thermometer registered something that really showed him to be a warm-blooded animal, his pulse reached the "50's" and he ceased to babble o' green fields. It fills me with despair to know that he is once more teaching that meat is a poison, that milk is little better, and that the proper diet wherewith to combat all the ills that flesh is heir to is raw fruit and raw vegetables.

Speaking of fruit reminds me to say that there appear to be two values in this as an article of diet. In the first place, consisting as it does, in most instances, almost entirely of water, its consumption provides for more water in the diet—an almost universal benefit. In the second place, people believe it to be a food, and therefore in eating it they unwittingly reduce the total bulk of their diet; another manifest advantage in many cases.

ILL-EFFECTS ATTRIBUTED TO DIET.

I now turn to the consideration of a very important question—that of diet as a factor in the production of disease. There are few established facts in this connexion, and there are many rather wild statements which are based neither upon experiment nor upon experience. Let me confine myself at first to the possible ill-effects of ordinary wholesome and mixed dietaries. We know that a "luxus consumption" tends, in certain individuals, but by no means in all, to gout and obesity. We also know that the repeated mechanical distension of the stomach by a large bulk of food may lead to its dilatation, perhaps permanently. A surplus of sugary and of starchy foods sometimes produces diabetes in predisposed persons. Perhaps—but only perhaps—excess of protein food may tend to kidney disease. But here our knowledge, or our half-knowledge, ceases. And it will be seen that the evils are due to excess in the total amount of food, or excess of some particular type of food: the error is a quantitative one. If now we pass to consider diets which are restricted in some of their principles, or which are changed in certain essential particulars by the action of heat and certain chemical agents, we find that a group of so-called deficiency diseases may result from the deprivation of vital substances termed vitamins or accessory food factors. We are not yet certain how many morbid conditions are included in the deficiency diseases, but so far as research has gone, it is probable that the list at least includes beri-beri, scurvy, rickets, and keratomalacia. Normal growth, too, seems to depend to a considerable extent upon these or similar substances being present in food. It is established that very little of these substances is really necessary to prevent these diseases: the bodies concerned appear to be of the nature of ferments, or (better) activators of assimilation and perhaps of metabolism. The notion that has been promulgated of late, therefore, that great care must be taken in order to ensure a sufficient supply of vitamins in the diet of the vast majority of people in this country is absurd. Very little suffices for the purpose, and it is certain that the common mixed diet of most households contains sufficient and to spare of all the vitamins without special precautions being exercised in this direction. Plagiarising Prof. W. M. Bayliss, I might say, "Take care of the mixed diet and the vitamins will take care of themselves." This is the science of the position as far as we know it. And yet I read some advice the other day in which the doctor exhorted the patient to "fill himself up with vitamins," as though they were like the beer of the familiar drinking song!

WHOLEMEAL BREAD.

Much of the advocacy of wholemeal bread turns upon the fact, an undoubted one, that, bulk for bulk, it contains more vitamin B than does white bread. This fact becomes of very minor importance, however, when we remember that other common foods are very rich in this same vitamin—namely, eggs, peas, beans, lentils, and nuts. The most serious error introduced into this same advocacy of wholemeal bread is the impression given that white bread contains none of this vitamin at all. The truth is that, although white *flour* is practically free from vitamin B, yet, since yeast is extremely rich in this vitamin, white *bread* contains it. Both forms of bread having been subjected to the same degree of heat, neither has an advantage over the other in regard to the partial loss of vitamin on this account.

How comes this fallacy about? I can only suggest that there has been an absence of clear thinking on the part of those who have taken up this campaign in favour of wholemeal bread.

I suspect that the advocacy of this bread was begun on the ground that the extra cellulose which it contains, forming what has been termed "roughage," is of advantage as a mechanical irritant to the mucous membrane of the colon, and scours the intestine by bulking up the stool. Enthusiasm would appear, then, to have seized upon the fact that white flour is free from vitamin B, and to have loosely converted this into the statement that white bread is also free from vitamin B, thus adding—but quite erroneously—another supposed benefit to wholemeal bread.

In short, the undoubted benefits to be derived by some people from wholemeal bread as a means of avoiding colonic stasis have become confused with the question of the nutritive value of this article of diet. Even if it were true that the chemical composition of wholemeal bread proved that it had a higher nutritive value than white bread, which, as a matter of fact, it does not, this would give no guarantee that the person who eats it secures this additional possible nourishment. Because the net effective nourishment obtained from any article of food depends quite as much upon the form of its presentation to the digestive organs as to its ultimate chemical composition. More than a certain amount of cellulose is actually deterrent, both to the process of digestion, and to that equally important function, assimilation. In the first place, this cellulose prevents the free access of the digestive juices to the nutrient principles of the food. In the second place, the mechanical irritation of cellulose which is at all hard, and in the state of "roughage," causes a reaction on the part of the mucous membrane of the bowel, whereby there is a flow of fluid of a valuable kind into the lumen of the gut, so that much of the nutrient material is carried away in the fæces. Not only must we consider the mode of presentation of a food to the digestive organs themselves, but we must also consider the mode of its presentation to the eye, the nose, and to the palate. The psychological element in food values has been known, both physiologically and gastronomically, for a long time, but it has been largely omitted from the teaching of some recent writers. This is an important consideration in the question of the relative values of wholemeal and of white bread, to say nothing of its bearing upon the asbestos-resembling material which has been much vaunted of late. It is clear, therefore, that the whole question of the relative values of white and of wholemeal bread is much more complicated than the public is led to suppose by reading recent propaganda, much of which, I feel impelled to say, is the outcome of an ill-informed enthusiasm, rather than of considered judgment after a proper survey of all the facts.

Even so the matter does not end here. If we turn for a moment to economic considerations we find that, bulk for bulk, white bread possesses more actual calories available for nutrition than wholemeal bread, so that, even if the two articles were obtainable at the same price, which at present they are not, the average citizen may stand to lose more than he gains by the substitution of the latter for the former. Seeing that, as already stated, his vitamin B is amply assured in other directions, there only remains the dubious advantage of the scouring effect of the wholemeal bread to which I have referred. The question remains, does the average man require this "roughage," and, if he does, is it a good thing in the long run that this roughage should be introduced in the form of what, after all, is his principal article of food rather than in some far more subsidiary article? This last consideration is quite possibly the crucial one in the whole matter I am now discussing.

COLONIC STASIS AND ITS RESULTS.

The question cannot be taken further without touching upon the subject of the transit of food through the alimentary tract and the associated subjects of the frequency and the consistency of the stools. Clearly, nutrition is not a matter of how much food-value is put into the mouth, but of how much of this food-value is made use of in the body. If a large part of it leaves the body in the fæces, then, apart from the possible psychic benefit to the person, derived from the knowledge that he is having so many actions of the bowels per diem—and this psychic benefit will depend upon what he is taught as to the criterion of health in this respect—he is actually the loser, and not the gainer, by the particular choice of food which leads to this result. Certain recent teaching on these matters has influenced the public in such a way that even the regular passage of a formed action once a day leaves many of them in a state of apprehension lest some evil befall them. Personally, my own observations lead me strongly to the opinion that the consistency of the stool is of greater importance than its frequency. There are, we know, some individuals who never pass formed stools, and this independently of diet and medicines. But the average healthy man does pass formed stools; this can scarcely be gainsaid. I find it very difficult to believe that to convert this normal type of stool into one of more fluid consistency—whether by choice of food or by medicaments, call them aperients or lubricants, or what we will—is to confer any known benefit upon healthy persons. What is the nature of the benefit which such a change is supposed to confer? We are told that this change prevents colonic stasis, and that colonic stasis is a precursor of a whole series of diseases, including cancer. I propose to deal with these claims in the light of such knowledge as we have on the subject.

In the first place, I would remind you that some degree of colonic stasis is physiological; to take steps to avoid it entirely is, therefore, unreasonable. The slowing down of the passage of the intestinal contents through the colon allows of the absorption of water, perhaps also of nutriment, and secures the moulding of the mass so as to form a stool which can be easily dealt with by the musculature of the pelvic colon and of the rectum in the act of defæcation. Colonic stasis, then, is not pathological unless it becomes so marked as to leave a residue in the cæcum and in the ascending and transverse colon, in such a way that efficient and regular drainage of these parts does not take place. Clinical observations, aided largely by radiographic investigations, show that in many patients coming to us for treatment such pathological stasis does occur. But in other patients, in whom similar observations and investigations prove that there is habitually an unduly hurried clearance of the colon by rapid transit of the intestinal contents, we do not see any corresponding benefit accruing. On the contrary, such patients are liable to ills of their own, not less in degree or in significance than in the case of their more sluggish fellows. It is a fallacy, therefore, to teach that good health is in all persons proportionate in any sense to the rapidity of transit of the intestinal contents through the colon.

When we come to the second part of this teaching we have to record that there are no established facts at all which justify the notion—I will not distinguish it by the term hypothesis—that such

diseases as peptic ulcer, appendicitis, and cancer result from, or even tend to result from, a slow passage of the intestinal contents through the colon, still less from what may be regarded as the known physiological rate of this passage. That this is true is of the utmost importance in view of the public apprehension in regard to cancer especially. This apprehension has become seriously increased as the result of propaganda relating to "intestinal intoxication" and its supposed baleful effects.

In this connexion I have more than once pointed out that, far from colonic stasis and constipation being known precursors of cancer, the evidence points definitely in the other direction. The type-case of cancer of the colon is *not* the case of a chronic colonic dyspeptic, but of a patient whose intestinal functions have been quite good up till the time when it may be presumed from our knowledge of the growth of carcinoma in this situation that the neoplasm began. Again and again are we told by patients that until about this point in the history of the case, the bowels acted regularly and well, and without the use of aperients. Cancer of the colon is more frequent in men than in women, whereas colonic stasis is much more prevalent in women than in men. Again, the subject of chronic intestinal dyspepsia seems to develop cancer quite infrequently. On the evidence before us, therefore, it would be just as logical to preach a slowing-down of the intestinal contents as a prophylactic measure against cancer as to inculcate the doctrine which I am now criticising. The same error has crept into considerations of the pathology of gastric cancer. We are told that gastric ulcer and chronic diseases of the stomach tend to cancer of this organ. The evidence points entirely the other way. The chronic gastric dyspeptic, whether his or her trouble be peptic ulcer, or dilatation, or gastritis, only develops cancer in relatively few instances; whereas cancer of the stomach, arising without any history of previous dyspepsia, is a very common disease.

It is quite seriously alleged that there is radiographical evidence in support of the teaching that cancer is an end-result of colonic stasis. I have never been able to ascertain what this evidence is, and I regard the allegation as being entirely without foundation.

PERPLEXITY OF THE PUBLIC.

The public has been put in a dilemma, and by the same school of doctrinaires. On the one hand it is warned against even the mildest aperients, and is told that to use these involves a danger of cancer; so that I now get letters from patients asking me if they should, on this account, give up the taking of (say) the pinch of Epsom salts every morning which seems to have helped to keep them in health for many years. On the other hand, the public is warned with equal seriousness that if it does not secure three or four actions of the bowels a day the danger of cancer is even greater! So that some patients, again, with this dread in their minds, are certainly living on the edge of malnutrition. Surely it is time a health society arose which spread a less confusing and a more comforting gospel; it might be called the Society of Common Sense. To begin with its main thesis might be to leave well alone. Later it might embark upon some simple but well-established principles of hygiene, leaving alone all personal and highly debatable ideas. According to the teaching which I am now combating the whole duty of man in respect of his diet would seem to be summed up in this dictum: Put very little into your stomach and take care to get it out again as quickly as possible.

It is surely a grave responsibility to attempt to proselytise in the name of science, instead of making it clear that what is advocated with such fervour is only a form of personal belief? Laymen have been told that upon the selection of their food turns, in a large measure, their chance of developing cancer; yet we know no single fact whatsoever concerning the causal association of diet with cancer. True, the idea originated largely in the mind of a layman. But unfortunately laymen have been encouraged to write popular books and articles on this subject under the ægis of medical men—a glaring instance, as I have already pointed out, of qualified practitioners giving "cover" to unqualified men.

DIET IN DISEASE.

I have not time to-day to deal with diets as applied to actual diseases. There are, as we all know from personal experience, many "cures" vaunted as infallible remedies for nearly every disease. I have already referred to the fact that it is a common belief that there *should* be a special diet for all ills. No question is asked more often in our consulting-rooms than "What may I eat, doctor?" It not infrequently happens that a patient, suffering from a malady of many years' duration, insists upon hearing before he departs what he may have for his lunch that day. And it is pathetic to watch his face light up as we detail some very safe and easily digested dish. These people are an easy prey to the diet-monger who claims a panacea for every malady. With one such enthusiast it is the Salisbury diet, with another fruit, with another raw vegetables. And all patients get the same diet from the same source. The tall, gaunt, woman, with enteroptosis and neurasthenia, gets the raw turnips and carrots together with the plethoric city magnate. The badly-nourished patient with rheumatoid arthritis gets the same instructions as the arteriosclerotic with hypertension.

I am moved, when I come across this kind of thing, to a spirit of thankfulness that the classical text-book dealing with the subject of food in this country comes from the pen of a man possessed of the inestimable gifts of common sense and judgment. Dr. Hutchison says it must not "be supposed, as the laity are apparently tempted to do, that diet is a universal panacea which can be counted upon to prevent or to cure all diseases. On the contrary, it has, like other remedial agents, only a limited place in therapeutics." If such forbearance in thought and in expression were a more common attribute in some of those who undertake the serious and responsible task of instructing the public in hygiene, though they may not say so much, their influence would be exercised to much better purpose, and redound more to the credit of medicine.

An Address
ON
THE POOR-LAW HOSPITAL AND ITS RELATION TO GENERAL PRACTICE.

Being the Presidential Address delivered to the West Kent Medico-Chirurgical Society on May 13th, 1927,

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IN 1867 the Metropolitan Poor-law Bill was introduced into Parliament. This Bill provided for the classification and separate treatment of the sick by the establishment of workhouse infirmaries, recommended the employment of paid and qualified nurses, and directed that all medicines and medical appliances should be supplied by the guardians and not out of the salaries of the medical officers, as heretofore. It is indeed astonishing in these days to realise that at one time institutional medical officers had to supply drugs and appliances at their own expense, so that the worse he performed his duties the more salary he was able to make.

EVOLUTION OF LEWISHAM HOSPITAL.

This spirit of minimal activity in the treatment of the sick in Poor-law institutions has, however, survived until quite recent date. We now turn to Lewisham Hospital, and it may be interesting to glance at the stages of its evolution.

Before the year 1894 the sick poor of Lewisham were treated in the voluntary hospital and in the sick wards of the workhouse. In April, 1886, the Local Government Board sent their inspector to discuss with the guardians the great need of additional accommodation for sick, as the sick wards of the workhouse had been very much overcrowded during the past winter. In the following August the officials of the Local Government Board advised that a separate infirmary—i.e., entirely separated from the workhouse—was absolutely necessary. By December, 1886, there was no further room in the workhouse for patients, and some were boarded out with other unions. In July, 1887, the guardians submitted a scheme for converting one of the workhouse blocks, together with the erection of two additional blocks for the sick, in order to avoid the purchase of land and the erection of a separate infirmary. The Local Government Board would not sanction this, and pressed the guardians to proceed with the more ambitious scheme, pointing out that Lewisham had a rapidly increasing population for which to cater.

In November, 1887—i.e., after one and a half years of discussion, the guardians decided to provide a separate infirmary. In May, 1888, the Local Government Board again called attention to the state of affairs, that the existing medical and nursing arrangements were quite inadequate. Finally, site, plans, contracts, &c., were all arranged, and the completed building was opened on Oct. 10th, 1894 (eight and a half years after the shortage of accommodation had been felt), with a certified accommodation for 379 patients. There was a medical superintendent (Dr. F. S. Toogood) and one assistant medical officer. It is interesting to note that no provision of any kind was made for an operating theatre. As a matter of fact I believe that it is true that of all the Poor-law hospitals of London not one had an operating theatre designed at the time of building! At this time the building was called the Lewisham Union Infirmary for the Destitute Poor. Also about this time the total population of the Lewisham Union was about 106,000 (1896). About 1899 the mental wards were added; otherwise there has been no increase of accommodation by new buildings up to the present time.

After the war the workhouse was abolished and the accommodation given over for extra nurses, maternity and antenatal clinic, and ordinary sick wards—accommodation very unsatisfactory and quite out of date. Now you can see the new hospital block (278 beds) and new nurses' home well on the way to completion. These wards are quite modern and up to date in design, and are hospital wards and not the old-fashioned infirmary wards. These extensions conform to the policy suggested by the Ministry of Health. "Any extension approved at the present moment must not only be justified by immediate needs, but should be of such a character that they are likely to meet the needs of a reconstituted health authority (including Poor-law) for the area" (Annual report of the Chief Medical Officer of the Ministry of Health for the year 1925, p. 194, para. 404.)

It is also hoped in the comparatively near future to adapt the old buildings to make new receiving wards, out-patient clinic, new X ray room, &c., as the accommodation in this respect is highly unsatisfactory. That this fresh accommodation is needed is quite obvious from our chronically overcrowded wards and from the fact that the population has just about doubled since 1894 (212,000) and is still rapidly increasing.

Equipment.—In the early days of the separate infirmary the equipment was of the barest—no theatre, no special departments or aids to diagnosis. And the task of the then medical superintendent must have been depressing to a high degree. Slowly but surely he began to develop the place, improvised an operating theatre, and brought the institution up to the standard that many knew well before the war.

SURGERY AT THE END OF LAST CENTURY.

Modern surgery, especially in regard to abdominal operations, had not in 1894 come fully into its own, and indeed hardly did so before the new century commenced. Poor-law infirmaries at that time were many years behind the times, and the thought that the diseases of the destitute sick poor required the same facilities for treatment as those of others appeared to be overlooked, and little else than bed, food, and a certain kind of nursing was available. In any case, had facilities for treatment been available, the scanty medical staff would have been quite unable to cope with the number of cases. In these early days, therefore, those who could went for treatment to the voluntary hospitals and did all they could to avoid the pauper taint. Hence there was a tendency for the old, infirm, and chronic cases to gravitate to the infirmary, and for the acuter cases to go elsewhere, where the facilities for treatment were known to be better. It must also be borne in mind that for many years the training of nurses in Poor-law hospitals was non-existent. As early as 1860 Florence Nightingale had opened a training school for nurses at St. Thomas's Hospital. It was not until 1881 that training schools for nurses were established in Poor-law infirmaries. In 1902 was published a report of the Departmental Committee appointed *ten years previously* to consider matters connected with the Poor-laws, especially in connexion with the nursing of the sick, and at long last the Nursing Orders of 1913 were promulgated by the Local Government Board, in which all superintendent nurses or matrons were required to hold certificates of three years' training in the wards of a hospital or infirmary which was a training school, and also to hold a certificate as midwife under the Act of 1902.

We may well pause for a moment to consider how it was that such a long period of minimal activity as from 1860 to 1913 in the progress of the Poor-law medical and nursing services was possible, more especially if we compare the post-war interest and progress. The following factors, in my opinion, have considerable bearing. In the early part of this period medical, and more especially surgical, treatment had not reached the stage of development which necessitated the presence of the patient in a hospital ward, surgery especially being confined to comparatively few operations, which were performed by a limited number of surgeons. The voluntary hospitals could therefore meet this need entirely. The taint of pauperism and the traditions which developed from the Poor-laws of about 1601 (in those days any pauper who left his parish was liable to be whipped at the cart-wheel) has, until very recent times, prevented the sick from seeking accommodation in Poor-law infirmaries. The penalties meted out to the able-bodied poor and to the sick poor were practically the same, loss of the franchise, and so forth. Therefore it would appear to be fairly obvious that no inducement was given to the poor to make use of these institutions in sickness, except as a last resource, which attitude of mind and ideal of service is the very antithesis of that which should pervade a service designed for the alleviation and cure of disease.

POST-WAR PROGRESS IN POOR-LAW INSTITUTIONS.

Now we may turn with a certain amount of relief to the present. And we may now ask why is it that the post-war progress in Poor-law institutions for the sick has made, at any rate in London (I know little of the provinces), considerable strides, and are now catering for such a large number of acute cases—not a gradual alteration in the curve towards efficiency, but quite a sharp rise.

1. The overcrowding of the voluntary hospitals—the fact that they had not expanded with the needs of the population, and that hospital in-treatment is growing in scope and a comparatively larger percentage of the populace are admitted either for investigation or treatment. This congested state of the voluntary hospital inevitably throws more work on to the Poor-law hospitals, at any rate in Lewisham, and especially of the class of case known as "acute abdomen" and other cases of the very urgent type.

2. I think that there is a greater inclination for patients to go into hospital than before the war. During the period of military operations vast numbers of the male population passed through hospitals, many of them converted Poor-law institutions, and so have got used to hospital life. Further, many of the Poor-law hospitals have never gone back to the pre-war standards, are now named hospitals, and the common people enter them with greater confidence.

3. The most important factor, however, in my opinion, which has contributed to the progress of Poor-law hospitals, has been that enormous growth of humanitarian and altruistic feeling in general

which has taken place in England during the last century, and which has suddenly, so to speak, burst into flower. Whether *all* the manifestations of this humanitarian growth are to the advantage of the race is not a matter for present consideration, but that it is part of the moral equipment of modern man can hardly be denied. Trotter ("Instincts of the Herd in Peace and War," second edition, p. 124) says: "Throughout the incalculable ages of man's existence as a social animal, nature has been hinting to him in less and less ambiguous terms, that altruism must become the ultimate sanction of his moral code. Her whispers have never gained more than a grudging and reluctant notice from the common man and from those intensified forms of common man, his pastors, and masters . . . and when it has been interpreted to the people it has always been received with obloquy and derision, with persecution and martyrdom. Thus, as so often happens in human society, has one manifestation of herd instinct been met and opposed by another."

It is interesting to cast one's vision back a moment for 100 years.

. . . Mr. Justice Park at the Spring Assizes at Salisbury in 1827 said, that though the calendar was a heavy one, he was happy to find on looking at the depositions of the principal cases, that they were not of a very serious character. Nevertheless he passed sentence of death on 28 persons, among them being one for stealing half-a-crown! (W. H. Hudson, Collected Works, 1923, "A Shepherd's Life," p. 225.)

What a change has taken place in 100 years! I have perhaps strayed a little from the path, but have done so to try to show what powerful and at times partially unnoticed forces guide the destinies of the human race.

Poor-law Hospitals Expanding.

Now we must consider in more detail what have been the happenings in Poor-law hospitals since the war. The first thing one notices is a large number of medical superintendents of Poor-law hospitals, with their mouths wide open and like Oliver Twist, asking for more! More medical officers, more nurses, more beds, better equipment, more aids to diagnosis and treatment, and so on, and I think that in spite of many obstacles and difficulties, much has been accomplished, and to find illustration we come back to Lewisham Hospital.

The resident medical staff before the war was three in all with no part-time consultants. Now there are five resident medical officers, one of whom does part-time as district medical officer to one of the divisions of the union; three part-time consultants, physician and surgeon and radiologist; and also we have the help and advice of the pathologists at St. John's Hospital, who at present do our pathological work at their own laboratory. Further, power has been given to the medical superintendent to call in any other consultant that he may choose at a fixed fee per visit. The value of these arrangements is incalculable, but they mean extra work for the resident staff, and not *less* work.

There is now an antenatal clinic held weekly to enable those on our maternity books to be examined from time to time. The nursing staff has been considerably augmented in numbers and the training school made more efficient by the appointment of a sister tutor, who devotes the whole of her time to the training of the nurses.

The ambulance service, which before the war consisted of one horse-drawn vehicle, is now provided by three well-equipped motor ambulances.

The X ray department was non-existent before the war; now some 2000 X ray examinations are made yearly, representing actually about 1000 patients examined, and it is hoped to move the X ray department to more commodious quarters and to bring the apparatus fully up to date and to increase the scope of the work by doing X ray treatment.

There was no massage department before the war; there are two fully-trained masseuses now. There again, it is hoped before long to find better accommodation and to add artificial sunlight treatment, &c., to its activities and to increase the facilities for electrical treatment, exercises, &c.

The pathological work done before the war was very meagre in extent. Now, facilities for extension of this work were arranged with St. John's Hospital, but it is hoped that in the not distant future we shall have a fully-equipped laboratory of our own. One method by which the congestion in the wards is relieved is by referring in-patients to the out-patient department for continuation treatment, and many cases can thus be discharged earlier than otherwise would be possible. This work is done by the medical officer who does the district worked in connexion with the hospital.

A very considerable number of casualties are brought to the hospital for emergency treatment—at the rate of more than 2000 annually. The London County Council ambulance in 1926 made nearly 1000 visits to the hospital. No proper organisation or department exists for this work, but it is hoped that proper arrangements will be made at some future date.

I have already mentioned the new building scheme which is now far advanced, and will here only mention the operating theatre accommodation. It is an astonishing thing to me that so few of the London Poor-law hospitals have adequate operating theatres. I believe that in all they are adaptations of rooms or of post-war date. I once mentioned this to a highly-placed official, and he said they were not called operating theatres, but were worked in as "operating rooms"; presumably that undue attention might not be called to the fact that the Poor-law infirmary medical superintendents were trying to do their jobs! At Lewisham a side ward was adapted as operating theatre without proper light or ventilation and with no anæsthetic room; in this theatre at present some 1200 to 1300 operations are performed yearly. Now, within a few months, a really first-class theatre, with all its necessary adjuncts, will be available, adding enormously to the comfort of the patient and efficiency of the surgeon.

THE GENERAL PRACTITIONER AND THE POOR-LAW HOSPITAL.

Now at long last we come to the general practitioner. What are his relations to the Poor-law hospital? He is our father and our mother, for surely he supplies us with all our sustenance. He is the person who overcrowds our wards and who sends in patients at all hours of the day and night! And from a practical point of view—especially in places such as Lewisham, which has no very large number of voluntary hospital beds within reach—it is the needs of the general practitioner which have to be met. And I foresee that this state of affairs will become more evident, and that a greater number of Poor-law hospitals throughout the country will have to adapt themselves to the needs of the local practitioners, as it seems doubtful whether the increased accommodation needed for the future will be entirely met by increased voluntary hospital accommodation.

Methods of Admission.

It may now be useful to glance at the methods by which patients were formerly admitted.

Theoretically no case should be admitted to Lewisham Hospital except on an order signed by a relieving officer and countersigned by the district medical officer—that is to say, that an ordinary general practitioner has to have his case "vetted" by the district medical officer before it can be admitted to hospital; the only exception to this rule (other than legal transfers, admissions through the clerk to the guardians, &c.) are in cases of sudden and urgent necessity, when the medical superintendent of the hospital may admit on his own order. Just imagine the waste of time, the delay to the patient, and the bother to everybody if such a rule were still enforced!

The methods employed at present are as follows:—

1. The doctor sends a certificate of recommendation to the relieving officer, who issues the necessary order for admission to the hospital and arranges for the ambulance if needed.

2. The doctor rings up the medical superintendent or his deputy at the hospital in very urgent cases, leaving a certificate of recommendation for admission as an *urgent* case at the patient's house. The medical superintendent then despatches the ambulance, but having had no opportunity of seeing the patient he cannot form any judgment of its urgency and has to rely entirely on the opinion of the general practitioner, so in the end it is really he—the general practitioner—who decides whether the patient is a case of "sudden or urgent necessity." All cases admitted thus are technically made paupers, but the only thing they forfeit now is the capacity to become a guardian or a councillor.

At Lewisham Hospital soon after the war an arrangement was made by which urgent cases, willing to pay the full cost of maintenance, could be admitted on the recommendation of a general practitioner by

an order signed by the medical superintendent, thus avoiding dealing with the relieving officer and being subjected to a none too pleasant inquisition. This arrangement, I feel sure, has relieved doctors many times of the anxiety of finding immediate accommodation for an urgent case who is desirous of avoiding going through the relieving officer. The money for maintenance is collected by the hospital almoner.

Now the Poor-law hospital is like the widow's cruse, apparently inexhaustible in the matter of beds; it can never say "house full"—that is to say, cases other than infectious cases are never refused, and this entails constant overcrowding of the wards with extra beds, so reducing materially the air space per patient—none too much in the older Poor-law hospitals—besides being an extra tax on the nurses of the ward. Thus we see that the general practitioner always has access to beds in these hospitals for his patients, and that the mode of entry on the whole is extraordinarily easy, very much easier than ringing round the London hospitals to find one which will (1) take the type of case or (2) has a bed to put it in. Voluntary hospitals can pick and choose and, as far as I know, never put up extra beds. It is to the Poor-law hospital that the general practitioner sends most of the mental cases which come his way; the method of entry under legal restraint for observation and possible certification is the quickest and easiest way for a doctor to deal with an urgent case of mental derangement.

At Lewisham Hospital the mental wards have been shut down because of the structural alterations taking place, and the mental cases of the Lewisham area seeking Poor-law relief have to be taken to St. John's Infirmary, Highgate. Any mental cases inadvertently coming to Lewisham have to be put in a general ward pending transfer, a most undesirable state of affairs.

USES AND ABUSES OF THE PRIVILEGE OF EASY ACCESS.

Now to what uses and abuses does the general practitioner put this privilege of easy access? He can without fail get his urgent cases—especially those demanding immediate surgical or obstetrical interference—into hospital (in the case of Lewisham, fairly centrally placed). His patients can be swiftly and easily moved. If time permits he can run in and see his patient from time to time. Visiting times for relatives are easy and generous, and they meet many of their friends during an afternoon's visit to the hospital. The general practitioner thus can very quickly rid himself of the responsibility of these urgent cases (a responsibility which, of course, he cannot go on holding after his diagnosis has been made), always provided that the Poor-law hospital to which he sends his patients has both the staff, equipment, and skill to deal with the case. Therefore I repeat that the needs of the general practitioner, especially when perhaps rather isolated from the voluntary hospital accommodation, are important factors in the development of Poor-law hospitals.

Now—I feel a little like Daniel in the lions' den—now we come to the abuses to which Poor-law hospitals may fall a prey, and to the errors which the general practitioner may make from time to time.

1. The admission of dying patients; this is only too frequent. The number of cases which come in and die within a few hours is out of all proportion to the number of mistakes of diagnosis or prognosis, into which errors, of course, we are alike liable to fall.

2. The moving of cases which should not be moved or should only be moved at the right time. Cases of sudden hæmoptysis, hæmatemesis—these patients should not be moved indiscriminately, but only after some rally has taken place. Many times have I been asked to take in this type of case at once. Pneumonias are often sent in at the time of the crisis; in my opinion an absolutely fatal thing to do.

3. Cases of abdominal disease are sometimes sent in and morphia has been administered beforehand. This obscures physical signs, and the doctor does not always inform us of what he has done.

4. Cases sent in at unreasonable times. This class of case is unfortunately a large one, and practitioners sending ordinary cases in at times which cause absolutely unnecessary disturbance of the patients in the wards give extra work to the already depleted night staff, may cause an ambulance driver to be got out of bed, and the medical officer robbed of his well-earned rest. To give an example. An ordinary case of quinsy was once sent to the hospital at 12 midnight. It is with extreme frequency that ordinary cases are sent in after the ordinary working day is done and when the receiving ward staff has gone home. One gentleman has a fine reputation amongst us for sending in his cases on Sunday.

5. Practitioners, I regret to say, sometimes fail to notify us of the fact that the patient is either suffering from or is a contact of some infectious disease. As examples, one case was sent in labelled as cholecystitis; she was really suffering from gonorrhœa, and told us that her doctor had told her that if he gave the right disease the relieving officer would not give her an order. On one occasion a maternity case was sent when in labour and no mention was made by the doctor, although he must have known that she was also suffering from secondary syphilis.

6. Mental cases are from time to time sent in as neurasthenia, and whilst realising the difficulties associated with this class of case, I would ask you to consider the effect that the admission of a case of this sort has on the morale of the other patients.

7. Patients are from time to time sent in without being examined at all, and others, although they have not been seen for some days. There is absolutely no excuse for this.

8. Cases are sent in with inadequate information supplied; a good example is that of maternity cases on which some operative measures have already been carried out.

9. In my opinion practitioners are too fond of telling the patient what is going to be done to them in hospital. They even sometimes direct what is to be done, and I will give you a striking case. A maternity case was admitted with a certificate from a doctor stating that it was a case of obstructed labour, and was sent in for Cæsarean section. Unfortunately, besides sending us directions as to what to do, this doctor told the husband that the patient was going to have Cæsarean section in order to get a living child. As a matter of fact the case was one of hydramnios, with an enormous amount of amniotic fluid, and when this was allowed to drain away the patient, after a very short normal labour, delivered herself of a small macerated, anencephalic fœtus. It was no easy matter to explain matters satisfactorily to an already much harassed husband!

It may here be suggested that it is very unwise to place too much credence on what a patient or his relatives say that the doctor said. For my part I disbelieve the average patient in this respect on principle, so often does he put into the doctor's mouth what he himself thinks and sometimes believes.

10. During dense fogs I am always astonished at the practitioners who want an acute chest case moved to hospital.

11. Sending suckling babies for comparatively trivial treatment as in-patients should be avoided, as either the mother has to come to the hospital to feed the child or else it has to be weaned, neither of which alternatives is satisfactory.

12. Finally, certificates sent to relieving officers are not always marked urgent when the case really is so. Only recently a case marked (?) perforated duodenal ulcer was not marked urgent, and several hours of unnecessary delay occurred before the patient was sent in. Luckily the case turned out to be something else.

I have not touched on the future of the general administration of Poor-law and the changes that are likely to take place in the near future. These things are outside our consideration this evening, and whatever changes do or do not take place the Poor-law hospital—perhaps under another and more dignified name—will still exist and the general practitioner will still remain, with his increasing demands upon its beds.

WEST MIDDLESEX HOSPITAL.—Brentford guardians are proposing to add 81 beds, a new maternity block, and more accommodation for electrical treatment to the West Middlesex Hospital, which already holds a good record for up-to-date methods.

CROYDON GENERAL HOSPITAL.—The King and Queen visited this hospital recently, when the Queen unveiled a stained-glass window commemorating her visit. Their Majesties made a tour of the new hospital buildings, which includes a new out-patient's department, opened shortly before their visit by the Archbishop of Canterbury. The cost of the building was £30,000.

THE INCIDENCE OF INTRATHORACIC TUMOURS IN MANCHESTER.*

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MOST of those who have had recent experience of the post mortem work of the Manchester Royal Infirmary have formed an impression that the incidence of intrathoracic tumours there is high. This has led to the suggestion that air pollution, which is exceptionally great in Manchester, may be a factor in the production of these tumours. In various other centres, both in Europe and in America, recent investigations[1] have made it appear that the incidence has increased in late years, and it has been thought that a similar increase was noticeable in Manchester. In order to ascertain so far as possible the actual state of affairs it was decided to make an investigation and analysis of all the cases which have been entered in the autopsy registers at the Infirmary up to the end of the year 1926. With regard to the problem of air pollution no satisfactory conclusion can be arrived at until the figures thus obtained can be compared with those from a number of other towns where there is more or less atmospheric purity, and it is with a view to arousing interest in the subject in other centres, so that investigations along similar lines may be carried out, that these findings are now being published. In this research it has been possible to study a large number of cases, and since it is only by the examination of large numbers, where numerous comparisons can be made, that many of the difficulties in differential diagnosis are made manifest, it has been thought permissible to discuss some of these difficulties for the guidance of those who may have less material on which to base their conclusions.

Incidence.

Registers of all autopsies performed at the Manchester Royal Infirmary since the year 1868 have been kept and, with the exception of the volume containing the medical autopsies of the year 1910, all are available for reference. These records have been carefully searched and every case where tumour-growth of the thorax was reported has been noted and considered. From amongst them have been chosen only those cases in which the evidence was conclusively in favour of their being primary intrathoracic malignant growths.

The first recorded case occurred in the year 1871, and in the years following, till the end of 1926, 175 cases have been discovered, as is shown in Table I.

TABLE I.

Years.	Post-mortems	Cases and percentage.
Up to the end of 1885	2107	5 (0·24)
1886–1890	1014	16 (1·58)
1891–1895	1175	15 (1·28)
1896–1900	991	12 (1·21)
1901–1905	1083	26 (2·40)
1906–1910	898	12 (1·34)
1911–1915	1141	27 (2·37)
1916–1920	910	22 (2·42)
1921–1925	1126	29 (2·57)
1926	335	11

It must be admitted that conclusions drawn from statistics of the cases which come to autopsy at a teaching school are open to criticism, for there must always be a tendency, in choosing cases for post-mortem examination, to choose those which have unusual features and to press more urgently for permission to examine such cases. Thus the pathological conditions which are most common in man are not those most commonly revealed in the post-mortem room. With the use of X rays as a method of diagnosis the recognition of tumours in the thorax is simplified, and it is probable that many cases which, 30 or 40 years ago, would have been passed as cases of pulmonary consumption are now recognised as of neoplastic nature, and are therefore deemed more valuable for the purpose of pathological instruction. Similarly in the admission of cases to a general hospital there must often be a certain amount of selection, because it is so frequently necessary to choose from amongst a waiting list only such cases as will most certainly benefit by hospital treatment. Nevertheless, when a large number of cases, gathered from a period extending over several years, can be examined, much may be learned regarding the tendencies of a pathological condition, and, in considering the figures in Table I., the slight increase in the percentage of cases cannot be disregarded. Although this increase is perhaps less than may have been anticipated, it is an appreciable one, and it seems permissible, even in view of the above-mentioned sources of error, to conclude that it indicates a true increase in the incidence of the disease.

In order to show how these figures in Table I. compare with the case-incidence in the hospital wards, Dr. E. M. Brockbank has kindly furnished the information given in Table II.

TABLE II.—*Numbers of Intrathoracic Neoplasms in the Wards during the Last Six Years.*

In 1925	27	in 2657 cases.
1924	20	„ 2656 „
1923	21	„ 2679 „
1922	27	„ 2677 „
1921	26	„ 2904 „
1920	27	„ 2821 „
	148	16,394 = approx. 0·9%.

The fact that the percentage in the ward records tends to be lower than in the autopsy records seems to show that these latter are in no wise an accurate representation of the general incidence of the tumours. The high percentage in the autopsy records is probably in great measure due to the fatal nature of the disease.

The selection of true cases of primary intrathoracic tumours was difficult and was open to error. In only 78 of them did the material for histological examination still exist and without such material and with no more information than is furnished by a sometimes very brief post-mortem report, it was frequently impossible to be sure of the nature of a case. For instance, it was sometimes difficult to determine the site of a primary growth in a case where tumour nodules were numerous and widespread throughout the body. One such case, where enlargement of the mediastinal glands and infiltration of the lungs were present along with tumour masses in both kidneys, showed a microscopic appearance which corresponded so closely to that of a typical renal cancer that it was decided to discard it in spite of the fact that it had been classified as a mediastinal tumour. Again there was difficulty in eliminating with certainty all cases which were not of true neoplastic nature. In this respect Hodgkin's disease gave rise to serious difficulty. There appears to be no certain method, other than microscopic examination, of distinguishing lymphadenoma of the mediastinal glands from tumours arising at the root of the lungs. Lymphadenoma is capable not only of causing enormous enlargement of these glands, but also of penetrating deeply into the lungs and bronchi, giving rise to ulceration, obstruction, and suppurative bronchiectasis, so that it may simulate in almost every respect a bronchial cancer. Unfortunately the difficulty is not always removed by microscopic examination, since, at some early stages in the progress of the disease the tissues may in parts appear so highly cellular as to resemble a small or mixed cell sarcoma, and it is only the recognition of the large, lymphadenoma cell that renders the diagnosis certain,

* This research was carried out under the auspices of the Manchester Cancer Committee.

[1] A bibliography of recent papers will be found in the appendix to this paper.

This point cannot be too strongly emphasised, for there is much evidence to show that confusion in respect of these cases has existed in the past, even after microscopic examination has been made. In dealing with the cases where no histological material was available, the feature which was considered to be most strongly indicative of Hodgkin's disease was the presence of secondary nodules in the spleen, and accordingly all such cases (of which there were five) were discarded. This measure is not altogether satisfactory because, on the one hand, cases of Hodgkin's disease may at an early stage show no involvement of the spleen, and, on the other hand, secondary growths in the spleen, although perhaps uncommon in cases of primary tumour of the thorax, may sometimes be found, as was shown by one case in the collection. It was, however, considered best in the choice of the cases to impose restrictions calculated to cause under-estimation rather than over-estimation of the numbers.

Age- and Sex-Incidence.

The figures in Table III. are for the most part in agreement with the findings of other observers.

TABLE III.

In 175 cases { 151 were males = 86·29 %
{ 24 „ females = 13·71 %

In 173 cases where the age of the individual was given :—

Cases.	Years.	Cases.	Years.
5	were under 21	33	were aged 46–50
9	„ aged 21–25	25	„ „ 51–55
6	„ „ 26–30	25	„ „ 56–60
11	„ „ 31–35	5	„ „ 61–65
20	„ „ 36–40	6	„ „ 66–70
27	„ „ 41–45	1	„ „ 71–75

Occupational Incidence.

A record of the occupation of the individual was traced in 143 of the male cases. The largest number in any single occupation was found amongst labourers, and of these there were 28. Next to them in order of numbers came carters, of whom there were 9, and next to these clerks, numbering 8. In none of the other occupations were more than four cases recorded. It was found on counting the labourers in the former class that the outdoor and indoor workers were in nearly equal proportion, there being 72 outdoor to 71 indoor workers. The number of men who had described themselves as carters was striking, and this drew attention to those who registered occupations closely related in one way or another to that of carter. These total 25, and are set forth in the following list :—

Carters, 9; van drivers, 2; lorryman, 1; coachman, 1; teamster, 1; horse keepers, 2; ostler, 1; stableman, 1; tram drivers, 3; engine drivers, 2; tram guard, 1; railway guard, 1.

These represented all the transport workers in the list, so that such workers constituted 16·55 per cent. of all male cases.

With the help of a census list kindly supplied by Dr. W. S. McClure, of the Department of Public Health, Manchester, it was possible to compare the percentage of tumour cases in the various occupations with the percentage of the whole male population of Manchester in these occupations. It was found impossible to estimate with accuracy the numbers of outdoor and indoor workers, because many of the occupations specified in the list included workers in both these classes, but it could be judged that at least 75 per cent. of the adult population were indoor workers. Since, therefore, in the cases of tumour there were actually more outdoor workers than indoor ones, it may be concluded that the incidence is higher in the former class in a proportion of three to one. In the census list it was found that the transport workers constituted 12·34 per cent. of the total male population, whereas in the case list these workers, as stated above, constituted 16·55 per cent. of the male cases. In none of the other occupations were the numbers of cases large enough to allow of useful comparisons being made.

Morbid Anatomy.

In most of the cases the tumour was described as being large, filling the mediastina and involving one or other of the lungs, but it was frequently impossible from the description to determine whether the involvement consisted of a direct spread of the tumour into the lung or of a deposit in the lung of metastatic nodules. In two it was described as being situated in the anterior mediastinum, and one of these was reported to be a malignant tumour of the thymus. In our experience the smaller growths are usually seen to be situated in the walls of one or other of the main bronchi, near the bifurcation of the trachea. In practically all cases the neighbouring glands are affected, and it is frequently found that one or two of these glands, which can be recognised by their anthracotic pigment, are embedded in the growth and appear to form the centre of it. The spread into the lungs seems most frequently to be directed upwards to the upper lobes. A few secondary nodules in addition to the primary growth are frequently seen in the affected lung, but they are much less commonly found in the lung of the opposite side.

TABLE IV.—*Frequency with which the Lungs were Affected.*

Right lung	78 cases.
Left „	67 „
Both lungs	18 „
No lung involved	12 „

Although in these records the right lung was more often affected, necrosis and gangrene was more often noted in the left. Necrotic and suppurating cavities in the left lung were reported in 30 cases, and in the right lung in only 21 cases. Certain authors have explained the formation of these cavities as being the result of necrosis and breaking down of tumour nodules with the escape of their contents into the bronchi, but it is often easy to demonstrate in the post-mortem room that they are of the nature of infective bronchiectatic cavities, resulting from ulceration and obstruction of the larger bronchi at the site of the primary tumour. It would seem, therefore, that whereas the right side is more commonly infiltrated by tumour, the left side is on the whole more liable to suppuration; the left bronchus being more frequently obstructed. Although in many of the older cases ulceration of the bronchi has not been reported, it has been present in practically every case within our experience.

Other thoracic organs which may be invaded by the tumour growth include the pericardium, the œsophagus, and the superior vena cava.

TABLE V.

The pericardium was invaded in	24 cases.
The œsophagus „ „	10 „
The superior vena cava „ „	9 „

Secondary growths were reported in the—

	Cases.		Cases.
Liver	27	Bones	8
Abdominal glands	26	Brain	2
Adrenals	18	Spleen	1
Kidneys	9		

Classification.

Only those cases in which histological material is still available are discussed in this section. In a great number of the earlier cases no report of a microscopical examination was made, and in these almost invariably the diagnosis made at the sectio was that of lymphosarcoma of the mediastinum. Similarly the cases on which there were microscopic reports were most frequently found to have been classified as lymphosarcomata, and it appears to have been customary to classify them as such, not so much from their microscopic appearance as from the fact that they were situated in the mediastinum. Since, as will be shown, lymphosarcoma is in reality a rare occurrence in the mediastinum, it was decided to disregard, for purposes of classification, all microscopic reports.

Material from 78 cases in the collection was examined histologically. Since the purpose of this paper is simply to give a statistical account of the incidence of intrathoracic tumours, an exhaustive description of their histology would be out of place here, and only

such summary of the features of the different main groups as will explain our method of classification will be given. With but 10 exceptions the whole 78 were included in the following two groups.

Group I. comprises the more or less typical and long recognised carcinomas of the bronchi. These include two different types: first, the large spheroidal or polygonal-celled alveolar type; and, secondly, the squamous or epidermoid type. In the first the structure and cells of the tumour usually bear some resemblance to the bronchial mucous membrane or to the mucus-secreting glands of the bronchi (Fig. 1), so that their recognition in view of their situation and macroscopic appearance is usually easy. In the second type the epithelial cells show metaplasia to a squamous form such as may frequently be seen in the epithelium of chronically inflamed bronchi, with the result that the tumours (Fig. 2) somewhat resemble epitheliomata of the buccal mucosa. They are composed of irregular masses of polygonal and spindle-shaped cells with deeply staining nuclei. The former cells are frequently arranged roughly in columns along the borders of the masses in the manner of the basal layer of the rete mucosum of Malpighi, whilst the spindle cells lie internally, often forming a whorl converging towards the centre of the mass. In a small number of cases cell-nests develop in these whorls, but prickle cells have not been shown in any of the cases.

Group II., with seven exceptions, consists of tumours which are now commonly described as oat-cell tumours of the mediastinum. The true classification of these growths is not finally decided, but there is a growing opinion that they are, as W. G. Barnard [2] has recently suggested, of the nature of medullary cancers of the bronchi. As will be shown, there is much evidence in the present material to support this opinion, notwithstanding the fact that the general microscopic appearance of many of them has undoubtedly in the past led to their being classified as lymphosarcomata, and thus to lymphosarcoma being considered a common tumour of the mediastinum. If one may take the structure of the lymphosarcoma to be that described by Ewing [3] and by other authorities—namely, a structure composed of lymphoid cells enmeshed in a delicate reticulum, such as is to be seen in malignant tumours of lymph glands in other parts of the body—it will readily be appreciated that these oat-cell tumours have no claim to such a classification. In them the cells, although they are usually small, may show a variation in size ranging from that of a small lymphocyte to that of the cells of the squamous type in Group I. They are characteristically oval or spindle-shaped (oat cells), though there is much variation in their degree of elongation, and they contain relatively large, darkly staining ovoid nuclei. They are arranged in solid masses surrounded by a framework of irregular bands of connective tissue wherein lie the blood-vessels of the tumour (Figs. 3, 4, 5, 6). In some the connective tissue is very plentiful, covering large areas, so that a considerable proportion of the tumour is fibrous (Fig. 6). In the cell masses there is a complete absence of intercellular reticular tissue and of capillaries, the tissue being dependent for its vascular supply on the vessels of the connective tissue bands. In the small cell variety (Figs. 3 and 4) the cells are sometimes rounded and less elongated, and may thus resemble lymphoid cells. The seven exceptions mentioned above are approximately of this type. They are tumours composed of small round cells (Fig. 7), and although all of them contain a few spindle cells, especially at the margins of the cell masses, these cells are not numerous and prominent enough to permit of the descriptive term "oat cell" being applied to the tumours. In every other respect, however, these cases conform to the type under discussion, and it seems most reasonable to classify them along with this second group. In the small-celled type the cells are frequently loosely arranged and form large masses which sometimes cover two or more fields of the microscope and are interrupted only here and there by sparse connective tissue strands. Sometimes these strands are little larger than the vessels they support, so that the latter appear to be isolated and in close contact with the tumour cells, when the likeness to a sarcoma may be considerable. In such places the cells are sometimes seen to radiate out from the vessels as in a perithelial sarcoma, but closer examination always reveals that these vessels, unlike those of a sarcoma, are stout-walled and possess an adventitial fibrous coat which represents the connective tissue framework of the tumour. In the large-celled variety (Figs. 5 and 6) the cells tend to be more closely packed and to form numerous small clumps. They tend also at parts to be more elongated and sometimes to form bundles and whorls, while at the margins of the masses column formation may be seen. In such tumours there may be a distinct resemblance to basal cell cancers, and in a few the cells at the centre of the mass may be seen to have fused and become hyaline, so that structures resembling cell-nests are formed (Fig. 8), making it appear that the relationship of these oat-cell tumours to the squamous tumours of the bronchi is very close.

In this second group structural variations too numerous to describe are found, and it is realised that many observers may not favour the inclusion of all the different types in the single class. Nevertheless, although there is wide variation in the structures, even the most remotely divergent cases appear to be inked together by a series of intermediate types which makes it difficult to see where any division in the classification could be made.

In the compilation of the group certain standards to which all the cases admitted have had to conform have been set. These are as follows: 1. The tumour cells form masses embedded in a framework of connective tissue which constitutes part of the tumour growth and is not merely a pre-existing tissue which has become invaded by tumour. 2. The vessels of the tumour are contained in the connective tissue framework and do not penetrate the cell masses. 3. The tumour cells are devoid of intercellular tissue.

These are standards which are applicable to true carcinomata and not to sarcomata or lymphomata, and while the small cell varieties may show histologically very little superficial resemblance to the usual conception of cancer, the fact that they conform to these standards, coupled with the fact that they seem closely related to other types which show a very remarkable resemblance to familiar cancers, seems to justify the classification of all these tumours as epithelial growths.

The similarity of the macroscopic appearance of the tumours of the different groups in no wise lessens the justification, for although the small oat-cell group tends to form larger and softer growths than, perhaps, does the tumour of the squamous type, the same may be said of the large spheroidal cell cancer. Indeed, it has been found repeatedly that the type of tumour cannot be determined from the naked-eye examination alone. All types arise about the roots of the lungs, infiltrate the bronchi, and cause enlargement of the mediastinal glands.

TABLE VI.—*Indicating the Number of Cases Contained in the Foregoing Groups along with the Average Age of the Cases in each Type of New Growth.*

	Type.	Number of cases.	Average age in years.
Group I.	Large-celled alveolar type	16	51·12
	Squamous celled type	13	46·61
Group II.	Oat-celled type	32	43·28
	Small round-celled exceptions	7	49·83

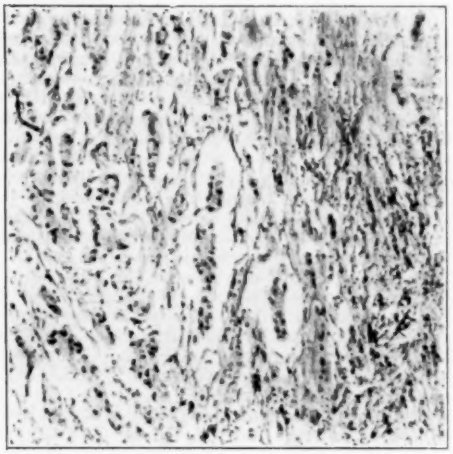
Exceptional Cases.

The following is a list of the cases which do not fall into either of the two foregoing groups. Notable amongst them are cases Nos. 1, 3, 4, and 8. These are tumours composed of spindle cells arranged in intertwining bundles. They are as a rule devoid of inter-

[2] Barnard: Jour. Path. and Bact., 1926, xxix., 241.
[3] Ewing: Neoplastic Diseases, 1919.

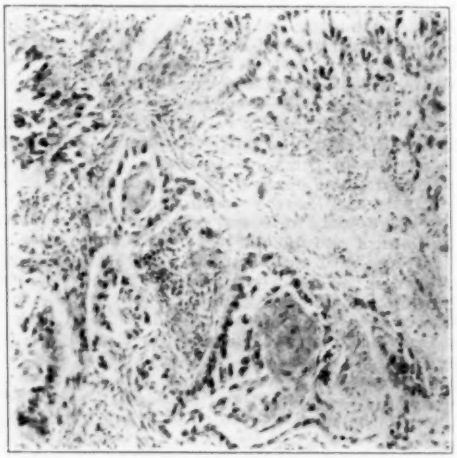
cellular tissue and the cells are of somewhat epithelioid type; some of them showing a slight resemblance to squamous cells, but the fact that the blood-vessels are very numerous and thin-walled prevents their being classified as epitheliomata. Their structure is one which is associated with growths of the pleura and, by some, they are considered to be of endothelial origin. As will be seen, in three of these four cases the pleura was especially mentioned as being affected.

FIG. 1.



A large-celled alveolar cancer showing a structure suggestive of an origin in the bronchial secretory glands. (× 120.)

FIG. 2.



A squamous cell tumour of bronchus showing cell-nest formation. (× 120.)

CASE 1 (22/510).†—Male, aged 36. Reported September, 1922, as "an endothelioma of both lungs." The tumour is composed of large, closely-packed spindle cells, some of which are irregular, branching, and almost syncytial.

CASE 2 (9274).—Male, aged 39. Reported August, 1918, as "a large tumour of the mediastinum with secondary nodules in right lung." Microscopically, a chondrosarcoma.

CASE 3 (8413).—Male, aged 41. Reported May, 1915 as "endothelioma of both pleuræ." A tumour composed of rather loosely arranged large spindle cells.

† The case-numbers given in parentheses are those of the Manchester University pathological department day book.

CASE 4 (8226).—Female, aged 31. Reported June, 1914, as "a tumour of possible thymic origin, involving left pleura and lung and invading pericardium." It is composed of large spindle cells amongst which there are a few polymorphic giant cells.

CASE 5 (8176).—Male, aged 26. Reported March, 1914, as "a tumour of mediastinum invading right lung, with metastases in abdominal lymph glands, adrenals, and bones." It is composed of small round cells amongst which there is a fine network of thin-walled capillaries and connective tissue fibrils. A possible lymphosarcoma.

CASE 6 (7699).—Male, aged 35. Reported September, 1912, as "a tumour of mediastinum invading left lung, bronchus, pericardium, and œsophagus." It is composed of small spindle cells amongst which there is a fine ramification of thin-walled capillaries. Although this case does not conform to the standards of Group II., the appearance of the cells suggests an epithelial type closely related to the small oat-cell tumours.

CASE 7 (6176).—Male, aged 58. Reported May, 1909, as "a malignant growth of pleura." It is composed of rather irregular, large, loosely arranged spindle cells. Some of these

FIG. 3.

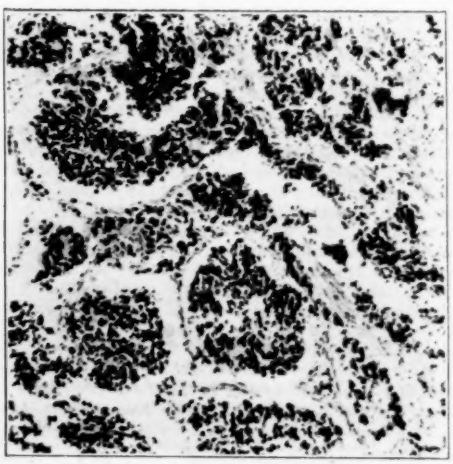
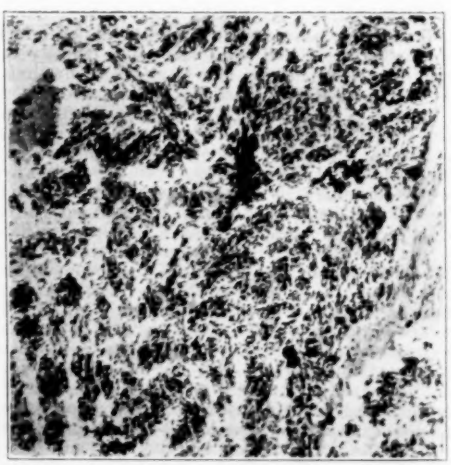


FIG. 4.

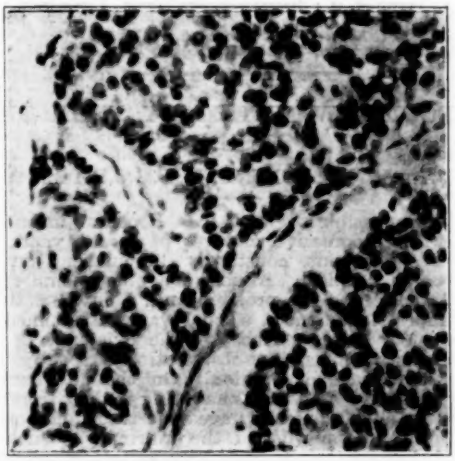


Small oat-celled tumours; the smaller celled tumour (Fig. 4) showing a larger cell mass. (× 120.)

appear to have branching processes so that there is a fine reticular appearance. The vessels are numerous and thin-walled. A tumour of very uncertain type.

CASE 8 (4140–1).—Male, aged 39. Reported September, 1903, as "endothelioma of left pleura with secondary nodules in liver and peritoneum." It is composed of large spindle cells arranged in whorl formation.

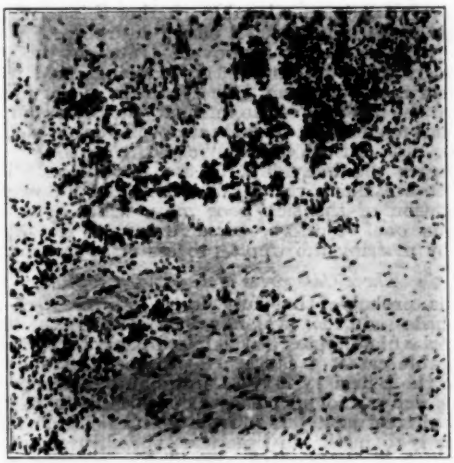
FIG. 5.



An oat-celled tumour with cells considerably larger than those of Figs. 3 and 4, showing the closer packing of the cells and the arrangement in columns at the margins of the cell masses. (× 300.)

CASE 9 (4139).—Male, aged 36. Reported September, 1903, as "a sarcoma of thymus not involving lungs." It is composed of closely-packed medium-sized, round cells. Only one section, which was stained in the year 1903, and which is in somewhat poor preservation, is available, so that an accurate description of the histology cannot be given.

FIG. 7.



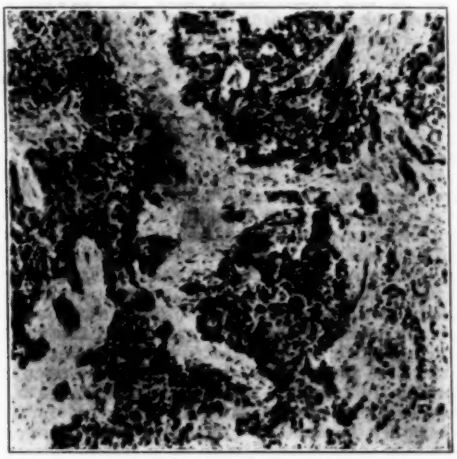
A small round-celled tumour in which the cell arrangement corresponds to that of the oat-celled tumours. (× 120.)

CASE 10 (1139).—Male, aged 26. Reported September, 1890 as "a mediastinal tumour invading left bronchus." It appears to be composed of large spindle cells like those of Cases 22/510 and 8226. The only available section was stained in the year 1890 and is in a poor state of preservation, so that it is not possible to make sure of the classification of this case.

Discussion.

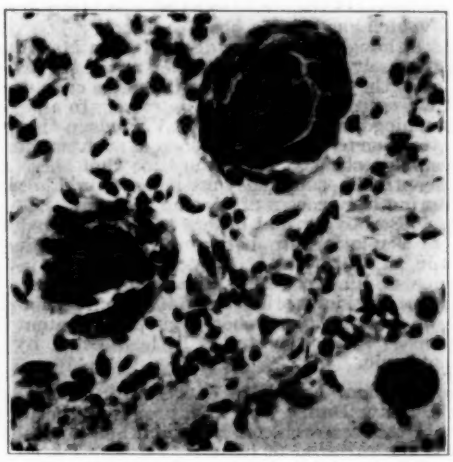
The value of these findings depends much on the question of the correct classification of the oat-cell tumours, or more especially on the question of whether or not they are tumours of the bronchi. If they are in reality bronchial cancers the findings would be the more valuable since it would then be shown that the bronchi, and not the mediastinal glands, are by far the most important structures in regard to tumour growths of the thorax. In Manchester bronchial cancers, instead of constituting only about 37 per cent. of thoracic tumours, would constitute considerably over 80 per cent. of these. The single fact that so many of the tumours arise in a tissue which is directly exposed to the atmosphere would encourage the suspicion that atmospheric impurity may be an important factor in their causation. Nevertheless it

FIG. 6.



A large oat-celled tumour; the structure in parts closely resembles that of the squamous tumours of the bronchi. (× 120.)

FIG. 8.



A medium sized oat-celled tumour in which the cells are undergoing a change like that of cell-nest formation in the squamous tumour. (× 500.)

must be some specific constituent of the pollution rather than the general atmospheric pollution itself that should be suspected, because the atmospheric conditions in cities are generally supposed to be improved since the coming into operation of the Smoke Abatement Acts, and were it simply a matter of a smoke-laden atmosphere, the incidence of thoracic tumours would be expected correspondingly to be on the decrease. There is strong evidence from elsewhere that special external conditions, probably through the medium of the atmosphere, may be conducive to cancer of the lungs and bronchi. In the mining district of Schneeberg, in Saxony, it has been shown that the men who work amongst ores of cobalt, bismuth, and nickel are especially subject to these tumours. Arnstein notes that one third of all the miners admitted to hospital in that district in the years 1907–11 were admitted with a diagnosis of pulmonary cancer.

In Manchester the figures point to no particular industry as being dangerous in this respect, but rather to those who are outdoor workers as being more prone to thoracic tumours than those who work in more sheltered conditions. It has been noted, however, that carters and drivers are comparatively numerous in the list of those affected. Obviously no conclusions can safely be drawn from such findings alone and all that can be done is to cite briefly some possible reasons for men of that class being so frequently affected.

In the first place, men who work in the open and are constantly exposed to weather conditions in an excessively damp climate such as that of Manchester may possibly be unduly exposed to the danger of chronic bronchial catarrh, and it is conceivable that such irritation may be a factor in the production of bronchial cancer; full enough information regarding the past histories of the cases to settle this point cannot now be obtained. In the second place, men who are much on the roads are exposed to an atmosphere which is very often heavily laden with dust and particles of most varied materials, and it may be that materials of a similar nature to those responsible for the high incidence of cancer among the Schneeberg miners may also be present in road dust. A relationship between cancer of the lungs and conditions of the highways has been suggested by other observers. Staehelin has suggested that the modern custom of tarring roads is responsible for the increased incidence and others have cited pollution of the air by exhaust gases from motor-driven vehicles as being a possible factor.

Thus although the figures derived from Manchester are in themselves insignificant, they are of importance in so far as they yield evidence which is in concurrence with the propositions of other observers. In an article on Branchiogenetic Carcinoma, R. V. Hudson [4] recently drew attention to the high incidence of such tumours in grooms, suggesting at the same time that these men are susceptible because they are liable to inhale much dust during the process of grooming horses.

Myer,[5] Berblinger, and others have considered that there is a relationship between the great influenza epidemic of 1918 and the recent increase in the incidence of lung cancers. Staehelin, however, has shown that the increase in Basle dates from earlier than 1918, and from the figures herein given it is patent that the increase in Manchester is little affected by the 1918 epidemic.

In conclusion, I wish to express my gratitude to Prof. J. Shaw Dunn, who first proposed the undertaking of this research, for his much help and advice towards the carrying of it out.

Appendix.

Among the more recent works which may be consulted on statistics of intrathoracic new growths are the following:—

Arnstein, A.: Centralblatt f. Path. u. Path. Anat., 1913, xxiv., 408.
Barron, M.: Arch. Surg., 1922, iv., 624.
Berblinger, W.: Klin. Wchnschr., 1925, iv., 913.
Brandt, M.: Mitt. a. d. Grenzget. d. Med. u. Chir., 1926, xxxix., 1–12.
Enger, R.: Centralblatt f. Path. u. Path. Anat., 1925, xxxvi., 141.
Fishberg, M.: Arch. Int. Med., 1926, xxxvii., 745.
Fried, B. M.: Ibid., 1925, xxxv., 1–41.
Hielman, P.: Virchow's Arch. f. Path. Anat., 1925, cclv., 549.
Holzer, H.: Med. Klin., 1925, xxi., 1235.
Kikuth, W.: Virchow's Arch. f. Path. Anat., 1925, cclv., 107.
Lichty, J., Wright, F., Baumgartner, E.: Jour. Amer. Med. Assn., 1926, lxxxvii., 144.
Menetrier, P.: Traité de Médecine, Gilbert et Thionot, Paris, 1917.
Marchesani, W.: Frankfürt. Ztschr. f. Path., 1924, xxvii., 158.
Oke, A., Perfillief, P.: Practicheskaya Medic., Leningrad, 1926, 29–30; Cancer Review, 1927, ii., 78.
Staehelin, R.: Klin. Wchnschr., 1925, iv., 1853.
de Vries, W.: Nederl. Tijds. v. Geneesk., 1926, lxx., 255.

[4] Brit. Jour. Surg., 1926, xiv., 54.
[5] Frankfürt Ztschr. f. Path., 1922, xxvii., 517.

A POOR-LAW INFIRMARY FROM THE INSIDE.

BY F. J. O'DONNELL, F.R.C.P. IREL.

IT is impossible to work in a Poor-law infirmary, where the progressive changes of recent years are operative, without constantly speculating on its future as a hospital. Almost every day some event calls attention to the problem, and I have set down here impressions formed when I was resident medical officer at a large infirmary. The existence of the problem is admitted, but its solution is a subject of sharp divergence of opinion. On the one hand a purely negative attitude, emanating mainly from the voluntary hospitals, encourages the traditional ostracism and unpopularity of the infirmary. Such an attitude ignores the advances in organisation, tone, and equipment made in certain infirmaries within recent years, the implications of a State examination for nurses, and the tentative efforts, now some years on trial, to find a wider field of utility for such institutions.

On the other hand, a more enlightened outlook thinks that the infirmary could be more extensively utilised in the general campaign against disease. The antagonism to the progressive outlook, which is the only logical sequel to the labours which have brought the infirmary to its present stage of development, is difficult to understand.

It is true that reorganisation on the lines adopted in Birmingham may be a menace to the voluntary system, but it is questionable whether this particular scheme, even if feasible, is either desirable or would meet with universal approval. Inherent in it is obviously the danger of reproducing the whole problem in a new form. The problem is not merely to turn the facilities of the infirmary to better advantage, but to eliminate from its atmosphere that element which, its critics claim, "chills the soul" and submerges the individual in the institution. It is easy to see that over-classification and subsequent segregation of the sick poor may, while advancing towards one objective, be defeated at the other, thereby marring the whole process of approach.

Three Categories of Infirmary Patient.

It is probable that any large infirmary of say 700 beds will always have to deal with three categories of patients: (*a*) helpless patients, including inoperable cases of cancer; (*b*) the semi-invalids for whom the infirmary is the Cannes and Bournemouth of the rich; and (*c*) patients specifically in need of hospital treatment. If preventive medicine in all its phases is to justify in time the expenditure incurred on it, that justification should be nowhere more apparent than in a fall of the demands at present made on infirmary accommodation by types (*a*) and (*b*). As regards (*c*) it is admitted that the voluntary hospitals are congested, and that reasonably well-equipped infirmaries are only partially utilised. There is room here for coöperation between the two systems, without the slightest risk to the voluntary principle.

Envisaging then the infirmary as a unit in the hospital system, it is natural to inquire why it is still

regarded with suspicion and antipathy, and it will be apparent from such an analysis that the infirmary at present is handicapped by various anomalies, which nullify in great measure all efforts towards progress.

Although the statutory disabilities of admission to an infirmary may now be regarded as void, the mode of admission in conformance with Poor-law regulations is illogical since the advent of the panel system. Given a semi-State medical service, such as the panel system, it seems to me inconsistent for its staff not to be entitled to send patients in need of hospital treatment direct to a State-supported hospital without the intervention of another official—parish doctor or relieving officer. The panel system and the infirmary should be ancillary one to the other, and if this relationship is to be utilised to the utmost, intercommunication must be free and devoid of all unnecessary officialdom. The intrusion of the parish doctor between patients and their private doctors serves no useful purpose; it is a handicap on the scope of the infirmary and should be eliminated. Such a step should go far to allay the prejudice excited by the present procedure, while it should not be difficult at the same time to safeguard the interests of the guardians.

Abuse of Infirmary Beds.

While recognising how wide its net should be, one must admit that the present easy access to the infirmary is open to abuse. The transfer there from other hospitals of cases "gone wrong" or only partially treated, of patients from the local mental hospital on a month's probation (a procedure, I believe, without the slightest legal basis), of patients in the last stage of illness sent in to die—these are examples of abuse. Clearly in such cases the infirmary is regarded as a dumping-ground and is discredited accordingly.

Of the numerous functions devolving on the infirmary, none are more damaging to its reputation than the mental wards and the arrangements for advanced tuberculosis. Somehow these entities constitute for a large section of the community a miniature of the infirmary as a whole. The Poor-law mental ward is a travesty of the more humane outlook accorded of recent years to mental affliction, and, as such, its serious consideration is overdue. The presence in the infirmary of advanced tuberculous patients, however isolated, is apt to be regarded as a menace by the public—a very intelligible prejudice. There can be no doubt that the infirmary will have to shed these anomalous elements before much headway towards winning public confidence can be made.

The infirmary is also handicapped, both internally and externally, by its ill-defined status. Internally, although the guardians as a body may be enthusiastic on the development of the active side of the infirmary, there is an undercurrent of semi-official opinion distinctly sceptical about the capacity of the infirmary to become a progressive hospital force—a legacy no doubt of long association with the Poor-law. Externally, this handicap is expressed in the comparative failure of the infirmary, as a hospital, to carry the confidence of the public and the medical profession.

Lack of Coöperation.

The lack of coöperation between the infirmary and the outside medical world is also remarkable. The amount of acute illness treated within the year is considerable, the surgery done there is not negligible, the panel patients coming to the infirmary are numerous, and yet very rarely indeed is there any communication between the staff of the infirmary and the outside doctors. As far as my own experience goes what happens in the infirmary seems to count so little that even a brief history on admission and a brief report of progress on departure are dispensed with. Cases of difficult labour are received at the infirmary without any details of their history, or of what had been attempted outside in the way of treatment.

Again it has come within my experience that a large number of rheumatic children may be treated in the infirmary for months on end, but when the time comes for their discharge there seems, amidst the whole expensive maze of preventive medicine, no individual unit whose duty it is to take over their future supervision. School medical officers no doubt come across these children later on, but never once, in my three and a half years' experience, did an inquiry reach the infirmary about such children, well over a hundred in number. It was apparent, therefore, that the infirmary was isolated in its activities and regarded as something apart from other efforts to combat disease and promote public health, and that this isolation accentuated the tendencies, inherent in all institutional life, towards a constricted outlook and a loss of personality—tendencies which it is highly desirable to eradicate. If the infirmary is to realise in any measure the hopes some have for its future, its present isolation must be broken down and it must be brought out into the currents of medical thought and activities.

There can be no doubt, for example, that a superintendent who lives apart from the infirmary stands a better chance of preserving a fresh outlook and runs less risk of losing his personality than does his resident confrère. If he is allowed some outside practice, he is less likely to lose the individual in the patient—the great temptation of exclusive institutional work. Similarly with the nursing staff of the infirmary; the more they see and know of other hospitals, the broader will be their outlook and the better their own work. More potent than any other factor in the removal of this spirit of isolation from the infirmary will be a greater scope for thorough and conclusive work with a growing outside recognition of its merit.

Infirmary and Workhouse.

No discussion of the future of the infirmary would be complete without some mention of the influence upon it of the workhouse proper, where the two are adjacent. The system probably handicaps the infirmary, but against this has to be placed the economy of administration which the system allows, and the increased resources thereby available for its development. The workhouse (a name which should certainly be abolished) consists of two sections—one for the aged, which is really quite a creditable home for old people, the other for the healthy. In the latter, humanising influences seem to have come up against a dead-end, the personal factor seems to have defied solution, and the hard traditional atmosphere of the Poor-law remains. The proximity of this relic of the past is a danger to the future of the infirmary, and its amelioration is worthy of serious thought.

Some reference must also be made to a rather prevalent professional opinion which thinks that the infirmary has no contribution to make to medical progress. How wide of the truth is such an opinion is demonstrated by the success of Savill's "Clinical Medicine," written from what its author called "the great unexplored mine of clinical medicine." Only a profound ignorance could be blind to the facilities which a modern infirmary offers for wide post-graduate study. Perhaps also as a stage of end-results not merely of individuals, but of a profession and its science as a whole, the infirmary is worthy of a passing note. These end-results are secluded, and therefore forgotten, but they represent in no small measure the toll which preventable disease still takes of the community.

In conclusion, I would suggest that the future of an infirmary, where the progressive changes of recent years are operative, lies between remaining a semi-penal social necessity or developing into a genuine social asset, and that for such an infirmary, with certain of its existing handicaps removed, with its activities rendered more homogeneous, with a more definite outlook and status, perhaps with a change of name, the more optimistic alternative is certainly logical and probably feasible.

GUMMATOUS ADENITIS IN CONGENITAL SYPHILIS.

WITH NOTES OF A CASE.

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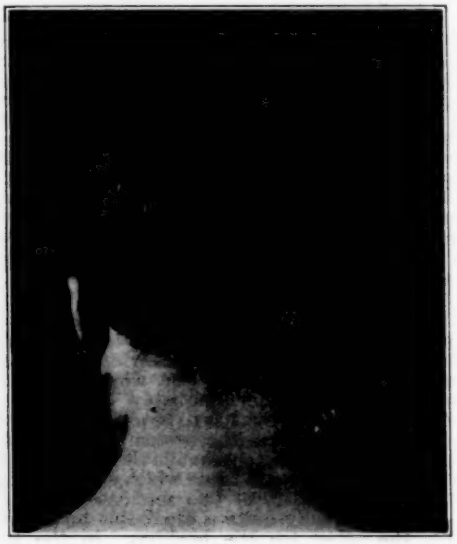
ONE of the least common of the tissues to be affected by syphilis in its later manifestations is the lymph-adenoid tissue of the body. Gummatous lesions of the lymph glands or of the spleen are extremely rare,



Gummatous ulceration and adenitis of the neck.

and Fournier,[1] in a review of over 2000 cases of late syphilitic lesions, does not mention the condition.

During the period of infection and while that infection is being overcome, by time and medication, the subject acquires an increasing sensitivity to the invading organism, and, we believe, gummata constitute the reaction of such a hypersensitive subject to residual spirochætes. That being the case it is not to be expected that the spirochæte, a fragile organism, should linger in tissues of high phagocytic power as the lymphatic tissues. Further, the anatomical structure of the lymphatic gland does not lend itself to the sequelæ of endarteritis and thrombosis which are essential features of gummatous lesions elsewhere, a fact which may in part account for the atypical histological appearances of gummatous lesions in the glands when they occur.

Probably the earliest reference to gummatous adenitis was published by Potier [2] in 1842 under the title of Affection Cancereuse des Ganglions Inguinaux. The case was that of a woman, aged 68, who had contracted syphilis four years previously and who subsequently developed an indolent swelling of glands of groin. The clinical description of the case suggests that it was one of gumma. Wile,[3] in 1912, recorded a case of gummatous adenitis, confirmed by demonstration of spirochætes from the lesion. In reviewing the literature he estimated that there were under 100 cases on record. Barth and Gomboult [4] reported one case of gummatous cervical glands associated with gumma of the thyroid; the diagnosis was confirmed by biopsy. Coues [5] reported four cases in 1915 and a further case in 1922; three of these were congenital syphilitics. Hughes [10] reported a case in 1925 almost identical with our own in every particular. Recently in a paper on cases of unrecognised congenital syphilis, Goldhurst [6] reported seven cases of glands of neck, some of which were broken down, with positive Wassermann reactions. The rapid response to antisyphilitic treatment confirmed the suspicion that they were gummatous in nature.

The association, therefore, of gummatous adenitis and congenital syphilis is well established, but it is sufficiently uncommon to merit the report of the following case:—

A girl, aged 11, was seen in the Light Department of the London Hospital in March, 1927, with gross cervical adenitis. In September, 1925, the child was alleged to have had tuberculous glands of neck while under treatment for phlyctenular ulceration of both corneæ. From July, 1926, to January, 1927, she received tuberculin injections at intervals of about ten days. Under this treatment the eye condition cleared, but the glands gradually increased in size. She was then admitted to a surgical ward and a gland excised for section, the pathological report being: "Caseous and granulomatous areas in cervical lymph gland; possibly syphilitic or tuberculous or Hodgkin's granuloma. No tubercle bacilli seen."

In March the child presented massive bilateral cervical adenitis with a gummatous mass about one and a half inches in diameter on the right side of the neck posteriorly. This mass and ulcer had the characteristics of a tertiary syphilitic lesion, as seen in the accompanying illustration. The blood Wassermann reactions of the mother and of the child were both positive, that of the father being negative.

There were no other stigmata of congenital syphilis except well-marked Hutchinson's incisor teeth; there was no deafness and the eyes, both as regards corneæ and fundi, were clear. There was, however, a marked wasting of thenar and hypothenar eminences of both hands with a tendency to claw-hand, a condition which had been present as long as the mother could remember, and was described as double-jointedness. Cerebro-spinal fluid obtained by lumbar puncture showed a negative Wassermann reaction, an absence of cells, and no excess of protein. The lesion here is probably the result of an old syphilitic meningovascular lesion in the region of the anterior spinal roots of the first thoracic nerves.

Treatment started on March 10th with mercurial inunctions was continued on March 17th by intravenous injections of novarsenobillon, 0·45 g. repeated at weekly intervals. Unfortunately, after the fourth injection the child developed chicken-pox, but at this time the glands were subsiding and the gummatous ulcer was healing.

When seen recently the patient was convalescing from the specific fever. The glands were about half their original size, and the ulcer, which had almost healed, contained a small slough. Treatment will be resumed as soon as the child is allowed to attend hospital.

This case was, in our opinion, one of gummatous cervical adenitis associated with congenital syphilis. Whether or not there was also tuberculous infection of the glands affected it is difficult to state. Cornil,[7] Lowenbach,[8] and Fasal [9] all emphasise the fact that the histopathology of the lesions in gummatous lymphadenitis is not typical of syphilis. In our own case biopsy gave similar evidence—namely, that of an atypical granulomatous inflammation.

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AN X RAY PIONEER.—As President of St. Thomas's Hospital the Duke of Connaught has presented the Carnegie Hero Medal to Mr. Chisholm Williams in recognition of his services to radiology. Mr. Williams was so seriously affected by the nature of his employment that he is now no longer able to follow it. During the war he did good work for the ex-Service men in the Bristol area of the Ministry of Pensions.

Clinical and Laboratory Notes.

TWO CASES OF FOREIGN BODY REMOVED AFTER TEN YEARS.

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THE foreign bodies removed were (1) a bullet in the lung and (2) a coin in the nose.

Bullet in the Lung.

History and Physical Signs.—A Kurdish man, aged 30, presented himself at the Altounyan Hospital suffering from profuse intermittent hæmoptysis of two months' duration. He stated that he had been wounded at Gallipoli during the war in the right arm and chest. Apart from a brisk initial hæmoptysis he had suffered no great inconvenience, though he had been invalided out of the army shortly afterwards. Two months before admission, while doing some heavy manual work, he had had a very copious hæmorrhage. Since then he had lost much blood.

Although the patient himself was convinced that hæmorrhage came from the right lung, and was caused by the bullet, a careful physical examination gave no clue. A radiogram showed a bullet in the right base, surrounded by an ill-defined opaque area, but the right apex did not appear quite clear. It was necessary, therefore, to try to exclude tuberculosis. The sputum was examined on five different occasions with a negative result.

It was proposed to induce an artificial pneumothorax on the right side, and to attempt extraction of the bullet through a Chevalier Jackson bronchoscope. It was felt that an artificial pneumothorax would reveal any existing pleural adhesions which was a point of considerable importance, in view of the possibility of an external operation; whilst bronchoscopy would at any rate definitely show from which side the blood was coming.

Artificial Pneumothorax.—Accordingly Dr. A. Poche (in charge of the artificial pneumothorax clinic) between Feb. 8th and 15th, 1926, injected, at two-day intervals, 300, 400, 600, and 550 c.cm. of air, the final pressures reading $-12+1$, $-7+3$. On Feb. 16th a radiogram showed considerable collapse of the lung, and the absence of adhesions in the region of the bullet. The hæmoptysis continued unabated. The blood count showed red cells, 3,680,000; white cells, 7500; hæmoglobin, 37 per cent.

First Operation.—On Feb. 20th the patient was prepared for bronchoscopy by Chevalier Jackson's method. After the third application of cocaine to the pharynx there was a very profuse hæmorrhage; over a pint of froth and clot was expectorated. It was decided to proceed at once by the external route. Under novocaine anæsthesia the seventh rib was resected for a distance of 15 cm. forwards from the anterior axillary line. On incising the air-distended pleura, and opening it widely with retractors, there was no alteration in the patient's quiet breathing. The collapsed lung, lying against the mediastinum, was seized with a Duval forceps and drawn into the wound. It was impossible to palpate the bullet. The presenting lung was then sutured into the wound and packed with gauze for adhesions to form.

Second Operation.—On Feb. 25th, after radioscopic localisation, needles were passed through the lung tissue but failed to touch the bullet. It was decided to remove the bullet under the X ray screen. Without anæsthesia, either general or local, the presenting lung was freely incised and the bullet removed with a long stone forceps. This was a very difficult and somewhat desperate procedure. The patient was coughing up blood very freely and the respiratory movements were much exaggerated; during the manipulations the newly formed adhesions were broken down and the reopening of the pleura produced a very embarrassing dyspnœa and mediastinal flutter. Eventually the lung was seized, drawn out, and sutured once more to the wound. Normal respiration was immediately restored, and from this time on no further hæmorrhage occurred.

During the operation it was ascertained that the bullet moved freely in a sac of lung tissue. Hæmorrhage was apparently caused by the bullet repeatedly injuring blood-vessels in its walls. It is difficult to see why the artificial pneumothorax proved so powerless to influence the loss of blood.

Twelve hours after operation the patient's condition was one of extreme distress; the pulse-rate was 160, the respirations 56, and the temperature 97·2° F. On removing the dressings it was found that a progressive pneumothorax was being produced through a pin-hole opening in the suture line. This highly dangerous condition was finally controlled by a gauze pad soaked in paraffin, held in place and made air-tight by suturing the skin carefully over it. By the next morning the pulse-rate was 120, the respirations 40, and the temperature 102° F.; the patient was safe. On Feb. 28th a large collection of septic fluid was evacuated from the pleura. The cavity was packed with gauze and air was excluded as much as possible.

Third Operation (March 4th).—There was now a large septic cavity between the lung and the diaphragm. The free movement of the diaphragm, which was plainly visible, obviously rendered the eventual healing of the wound problematic. Accordingly a right phrenicotomy was performed under novocaine anæsthesia, and the cavity was subsequently treated by continuous permanganate irrigation.

On March 23rd the patient left hospital, at his own request, with a large granulating wound. The diaphragm, practically immobile, could still be distinguished. The radiogram taken at this time shows large air spaces and collapsed lung. The patient reported six months later in good health. There had been no further hæmorrhage; there was a small fistula at the site of the wound. An X ray examination was refused—perhaps not unnaturally.

The following comments may be made: (1) In the light of after events it would obviously have been preferable to have boldly incised the lung at the first operation and removed the bullet. This was not done in the hope of avoiding the danger of infecting the pleura. (2) The ineffectual localisation of the bullet was due to its mobility in the sac. (3) Phrenicotomy should have been performed earlier, possibly at the first operation.

Coin in the Nose.

A man, aged 20, complained of right-sided headache and running from the nose of about one year's duration. The Wassermann reaction was negative. Examination of the nose revealed a mucous discharge from the right side, and on transillumination the right antrum was found to be opaque. Puncture of the antrum gave clear washings. After three weeks' observation a radiogram showed an opaque body in the inferior meatus of the right nares. A second careful examination with the nasal speculum failed to reveal a foreign body. Finally, after localisation, a nasal forceps was introduced under the right inferior turbinate and slowly advanced into the mucous membrane; a small silver one-piastre coin, measuring 1·5 cm. in diameter, was extracted. There was a brisk hæmorrhage. When confronted with the coin, the patient was able to recall that, when a small boy, he had at one time been in the habit of entertaining his friends by producing coins from his mouth, which he had previously introduced through his nose. He had no recollection of any coin sticking.

The radiogram shows considerable thickening of the nasal wall of the right antrum and broadening of the right inferior meatus. As so often happens, there was little in the history to suggest a specific search for a foreign body. The headache still continues, though the nasal discharge has ceased. The serum reaction of the blood for tubercle (Besredka's antigen) is strongly positive.

A NOTE ON TOTAL AND DIFFERENTIAL CELL COUNTS IN CEREBRO-SPINAL FLUID.

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PATHOLOGISTS are faced with two difficulties in counting cells in cerebro-spinal fluid: (1) It is sometimes very hard to differentiate between lymphocytes and red blood corpuscles (even the most expert have been known to make mistakes); and (2) stained films have a lamentable tendency to wash off the slide. The following method obviates both these difficulties, and has the additional advantages of being much more accurate and taking much less time.

A capillary pipette is drawn out and a grease pencil mark is made about an inch from the end. Into this are sucked with a rubber teat a volume of cerebro-spinal fluid, an air-lock, and a volume of 1 in 300 brilliant cresyl blue solution in normal saline. The contents are well-mixed by blowing out on to a slide, and a drop is put up on a counting chamber. The leucocytes will be found to be beautifully stained, while the red corpuscles are unaltered.

The total count is thus very easy, and at the same time a differential count can be done, because lympho-

cytes, polymorphs, ependymal cells, and even plasma cells can easily be recognised under the sixth inch objective. The count is more accurate than that done by the stained film method, because there is no tendency for the cells to be selectively dragged to one end of the film. The method has been in use for two years in this hospital, and has proved perfectly reliable.

Medical Societies.

MATERNITY AND INFANT WELFARE.

NATIONAL CONFERENCE IN LONDON, JULY 5TH–8TH.

THIS conference was, as we noted last week, of the usual wide scope and attended by delegates from all parts of the country. In his opening address as President of the conference Mr. NEVILLE CHAMBERLAIN dwelt on the triple partnership between the Ministry of Health, the statutory health authorities, and the voluntary health associations in welfare work. During the three crowded days which followed two of the most interesting discussions were on wet nursing and the provision of sick nursing in the home for children under school age.

Wet Nursing.

Dr. CATHERINE CHISHOLM (Manchester) described the system in operation at the Manchester Babies' Hospital since 1922. At first there were two mothers with their babies in residence. Now owing to successful results there are three. The mothers receive 10*s.* a week and all found. The good condition of their own baby encourages them. They are not allowed to leave the grounds except for a special reason. During five and a quarter years 24 have been in residence. Everything is done to secure healthy foster-mothers by medical and dental examinations (including the Wassermann test). The *real* baby is not entirely breast-fed, but has first call on its mother's milk. The foster-baby is not suckled, the milk being either expressed by hand or drawn off by a hand-pump or Abt's electric pump. The largest amount of milk given in the day has been 105 oz. Promiscuous suckling is revolting to some mothers, and the milk may "go" in consequence. Also the foster-child, if suckled, might infect the foster-mother. Dr. Chisholm claimed that the system has been of incalculable value to premature infants, and instanced a baby of 1 lb. 5 oz. weight on admission who did well. Sometimes the breast milk is diluted or peptonised.

Dr. RONALD CARTER (London) had made use of wet nursing 30 or 40 times in 20 years at his welfare centres. He took great care to select healthy mothers, rejected any who had had miscarriages or stillbirths, &c., but did not use the Wassermann test. He was also not impressed with the effect of oral sepsis, if it did not affect the general health. He had taught the mothers how to express the milk at home from one breast while their baby was suckling the other and to collect it and bring it up to the centre under clean conditions. In the selection of foster-mothers the health visitor's knowledge of the home circumstances was a great asset. The difficulty of organisation and transport was an obstacle to the spread of the system. Occasionally he had got a woman to actually suckle the baby of a neighbour or relative. During the last year he had obtained breast milk from the maternity department for cases of marasmus in the children's wards of St. Mary Abbot's Hospital and also from the borough council maternity department for other marasmic babies, and he believed a considerable supply could be obtained from similar institutions. He thought there should be centres in every area for the supply of breast milk, but was "not altogether in favour of the woman being paid for her milk."

Dr. HAROLD WALLER (London) referred to the unsavoury history of wet nursing in past centuries. As a voluntary act the supplying of milk for an alien baby was highly meritorious, but the sale of the milk did not seem a pleasant idea. At St. Katharine's, Poplar, they used the excess milk only, the *real* baby being entirely breast-fed. Few mothers had the temperament for suckling alien babies, but many mothers had so much milk that it was difficult for their own baby to suckle and much easier when some of the excess milk had been expressed. He always had the excess breast milk boiled before giving it to another baby. He thought the Wassermann test should be insisted upon, that the foster-mother's teeth should be in a sound state, and that it was better to have the milk expressed at the centres.

Dr. BRAID BIRKS (Salford) said lying-in mothers often had too much milk, and Dr. S. G. MOORE raised the point of the difference between the fore milk and the after milk, and the need for seeing that the *real* baby got its fair share of cream.

Councillor MARGARET BEAVAN (Liverpool) claimed good results from a similar system at the Liverpool Babies' Hospital, where they paid the foster-mothers 20*s.* a week as compared with Manchester's 10*s.*

Dr. MARGARET EMSLIE described a scheme which was being inaugurated in London for the regular expression, collection, and transport of human milk. The existence of centres and health visitors in all areas had made such a scheme possible.

Mrs. MCGHIE (St. Helens) pointed out that the mothers did the suckling of alien babies among themselves and asked if they were going to try to regulate such voluntary schemes.

Another speaker suggested that one could hardly pay for mother's milk, but one might pay her for the time, trouble, and work involved. A woman Poor-law guardian of 30 years' standing feared that the baby suckled by an alien mother might acquire her mental qualities and habits. The trend of the discussion was distinctly favourable to the extension of the system with proper safeguards for securing healthy foster-mothers and the well-being of the foster-mother's own child.

Nursing of Young Children at Home.

Miss E. HALDANE, who took the chair for the "nursing in the homes" discussion, referred to the great need for this service and also to the great improvement in education of young mothers as compared with the past.

Miss J. R. WATTS (Q.V.J. Institute for Nurses) put the case for a unified system of home nursing and dealt with the financial difficulties, which had prevented the Institute from training enough nurses. Most of her work had been done in Scotland, in the crowded industrial areas in which there was now a great demand for nurses on the provident system, which they were unable to meet. The medical profession as a whole had not properly backed the establishment of district nursing and might have secured nursing as one of the benefits of the Insurance Act if they had insisted. Miss Watts spoke quite impartially and did not attempt to dictate whether the service should be provided by statutory authorities or a subsidised voluntary association.

Dr. J. E. SPENCE (M.O.H., Eccles) described the system in Eccles, designed to prevent overlapping. The districts there are compact, with no long distances to cover, and the duties of health visitor, school nurse, and of home nursing of the children are carried out by one woman. Instead of an area with 400 annual births, the Ministry's standard, each of these health nurses has an area with 180 births. This system has worked well for four years in Eccles.

Some of the points which emerged from the discussion were:—

1. At the present time health visitors with districts of "400 births" cannot supervise the toddlers, much less do sick nursing. To be called upon for sick nursing usually means neglect of the health visitor's proper important duties.

2. There should be one home nursing service, controlled in each area by one body. Before the ideal is obtained, the

subsidies to nursing associations should be increased and better coöperation with the preventive service might be secured if the M.O.H. or his deputy were a member of the management committee of the district nursing associations in his area.

3. The education of girls in sick nursing before marriage was put forward as an effective way of diminishing the need for home nursing. A miner's wife, the mother of nine children, described how owing to some training in first-aid she was able to nurse her ninth child herself, when it was badly burnt. She paid a woman to help with the household work in the meantime.

Dr. ETHEL CASSIE (Birmingham) said the aid of a home-help often enabled the mother to use the skilled nursing of the school clinic, when she could not otherwise have done so. Better housing would act both ways. It would lead to fewer cases of sickness needing nursing but it would permit many cases of respiratory disease, which have to be removed to hospital at present from an impossible environment, to be nursed at home.

Milk-borne Tuberculosis.

Dr. A. STANLEY GRIFFITHS (University of Cambridge Field Laboratories) in an evening lecture on the pasteurisation of milk in relation to surgical tuberculosis, said that there was no difficulty in distinguishing between the bovine and human strains. A tuberculous udder might give 100,000 tubercle bacilli to 1 c.cm. of milk. Milk might contain tubercle bacilli without the udder showing signs. The fæces were the second greatest infector of milk because most of the lung tubercle bacilli were swallowed. Even if tuberculous udders and emaciated and advanced cases were excluded from milk herds, the raw milk would not be safe. The doctrine that bovine tuberculosis was a useful immuniser against human tuberculosis was a very dangerous one. The bovine type might affect any organ and cause death by meningitis, general tuberculosis, and ulcerative pulmonary tuberculosis, although owing to the alimentary system being its usual portal of entry it was rarely the cause of pulmonary tuberculosis. It was a mistake to think that it was a mild form of the disease. An estimate founded on examination of material from the living and from post-mortems showed that 6·9 per cent. of the deaths from tuberculosis were from the bovine type. This meant that there were 3000 deaths in England and Wales during 1924 from tubercle-infected milk, and this figure was probably an underestimate because the post-mortems did not include those of children under 2—a very susceptible age.

The Tuberculosis Order had not, he said, as yet produced much effect. His examination of 19 cultures from fatal cases during 1926 and 1927 showed that eight were of the bovine type, and most of the large cities had a higher percentage of tuberculous milk in 1926 than in 1925. The percentages for Birmingham, Manchester, Leeds, and Edinburgh were 9·4, 10·3, 10·4, and 11·0 respectively. To make raw milk safe they must gradually get rid of reactors and build up tubercle-free herds. Dr. Griffiths gave some figures from Guernsey. From 1910–19, 2426 animals were tested with tuberculin and 191 reactors found. Recently 2882 had been tested and only two animals reacted.

Infant Mortality.

Dr. A. S. M. MACGREGOR (M.O.H., Glasgow) opened a discussion on respiratory diseases as a factor in infant mortality. He referred to the excessive infant mortality from both respiratory diseases and diarrhœa in the north and expressed the opinion that the cause for the difference between north and south was to be found rather in industrialism and poverty than in difference of climate. He gave statistics for Glasgow showing that the mortality from respiratory diseases was the chief single cause of the difference in the infant mortality-rates in the industrial and poor wards of the city as compared with the residential wards. He advocated a close research study of child life conditions in the areas around the various welfare centres. Rickets increased the mortality from these diseases. Glasgow was regarded as the home of rickets, but there had been a remarkable decrease in rickets during the last 20 years. Glasgow had for years adopted the policy of providing hospital accommodation for measles and whooping-cough which so frequently had respiratory complications.

Dr. CHODAK GREGORY dealt with the treatment of pneumonia. Out of 100 cases, 40 might be of the lobar type. Lobar pneumonia in childhood was not so serious and had a case fatality of about 12 per cent., whereas broncho-pneumonia had a case fatality of 50 per cent. Lobar pneumonia could be more easily treated at home but was more frequently sent to hospital than broncho-pneumonia. The fear of its being due to an infectious disease (e.g., measles) often delayed the admission of broncho-pneumonia. Early diagnosis was therefore important. Hospital construction was unsatisfactory. Large wards were difficult to heat and ventilate and gave no facilities for isolation. She recommended groups of small wards. Our climate was hardly suitable for actual open-air treatment but the bed should be at the open window.

Dr. K. SIMPSON (M.O.H., Barking) dealt with bottle-feeding, rickets, malnutrition, and tuberculosis as predisposing causes of broncho-pneumonia, and expressed his approval of the action of the M.A.B. in making hospital provision for broncho-pneumonia complicating measles and whooping-cough.

Other items of interest included a survey of the working of the Maternity and Child Welfare Act, 1918, by Dr. F. E. Fremantle, M.P., addresses on the practical teaching of mothercraft (Dr. Mabel Brodie), on the blessing of sunlight and the curse of smoke (Dr. Leonard Hill and Dr. C. W. Saleeby), and on the provision of observation wards and hospital beds for infants and children under school age (Dr. James A. Stephen, Aberdeen). The fourth day of the conference was given up to tours in practical illustration of subjects discussed.

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

THIRTEENTH ANNUAL CONFERENCE.

(*Concluded from p. 69.*)

HOUSING: HOME CONDITIONS.

IN the absence through illness of Dr. H. R. KENWOOD (professor of hygiene in the University of London) his paper was read by Dr. A. M. HEWAT (senior medical officer, L.C.C.). Prof. Kenwood had no doubt that complete measures for the prevention of tuberculosis could now be formulated, but they would be held to be prohibitive as to cost, in spite of the heavy economic waste from a disease which after three or four years of sickness destroyed life at the rate of 7000 to 8000 per week in England and Wales. But more of the money already provided for special measures of direct attack should be spent upon preventive measures apart from the cure of the patient. They needed to adopt a wider outlook upon prevention by regarding all members of the infected family as definitely subject to a risk. When a notification was received and a family was found in which the disease had appeared, the really essential thing was to find out why that particular family unit had "fallen by the way," and then to do all that was possible to prevent any extension of the disease in that susceptible family. Certain points, he thought, should be borne prominently in mind. From the early days of the voluntary notification of pulmonary tuberculosis, and for many years subsequent to the compulsory notification of the disease, he visited every notified case in Stoke Newington, and he was always impressed with two facts—that notifications mostly came too late, and that it was often impossible to secure such satisfactory home and living conditions as would be likely to provide a really useful measure of protection against any extension of disease in the home, especially when

young children were present. There was always some adverse factor which could not be removed, and most commonly the major evils of bad air in the bedroom and bad nutrition were in association. In more recent years there had been some improvement in these respects, but even now much had to be left undone or done to a partial and therefore often futile extent. It was certain that without good notification they could not get good results from direct measures. Taking at random an annual report for 1926 of a large town, he found there were 275 deaths from pulmonary tuberculosis; of these 22 were dead when first notified, 145 were dead within 12 months, and 36 were never notified. In another town over 55 per cent. of the notified cases were dead within six months. Such unsatisfactory notification largely explained the ineffectiveness of direct measures against tuberculosis. In childhood both prevention and cure were of special importance, and it was there that both problems assumed the most simple and economical dimensions. The important preventive measure of boarding out children who were running a risk of infection in tuberculous homes had not been as generally adopted in this country as it should have been. There was no doubt in his mind that a large amount of excellent institutional work was almost wasted from the lack of efficient after-care work, and he also doubted whether this latter would be fairly generally provided until its essential importance, when performed as it should be, was more fully appreciated. He held the view very strongly that suitably trained whole-time officials were needed for this work, and that a detailed national scheme of after-care should be framed and enforced. Better sanitary and social conditions were increasing the people's resistance to the disease, and the risks from a massive dosage of infection were diminishing, but the advanced case in most poor-class homes remained a standing menace to the health of some of its occupants, and a limited amount of segregation, optional or compulsory, should be more generally demanded.

Discussion.

Sir WILLIAM YOUNGER (Member of the Royal Commission on Housing for Scotland, and chairman of Dumfries and Galloway Sanatorium) gave a number of instances of cases of tuberculosis which had occurred owing to badly built and dirty houses. The problem of bad homes must be solved if any progress was to be made. He urged the establishment of convalescent homes for children under the same authority as the sanatorium, where children with known bad homes could go after treatment in a sanatorium and remain until they were in a state of health to face their home conditions.

Sir WILLIAM THOMPSON (late Registrar-General for Ireland) stated that the death-rate from all forms of tuberculosis in the Irish Free State per 100,000 of the estimated population, as represented by the number of deaths registered, was in 1906, 253·1; in 1916, 210·9; in 1926, 146·8. The corresponding rates for pulmonary tuberculosis were respectively 193·8, 168·2, and 113·4. Some of the decrease, he felt sure, was due to better housing conditions, at any rate in the rural areas.

Dr. F. J. H. COUTTS (Ministry of Health) referred to the importance of propaganda work in educating the public, not only in the sense of instruction, but also in encouraging them in the study of health matters.

Dr. H. DE C. WOODCOCK (Leeds) urged that more serious attention should be given to the consideration of trades in regard to the treatment of tuberculosis.

On Friday, July 1st, Dr. E. L. COLLIS (Mansel Talbot Professor of Preventive Medicine, University of Wales) delivered an address on

HOUSING AND INDUSTRIAL CONDITIONS.

Statistically, he said, they were aware that the mortality from tuberculosis had been falling steadily and regularly for more than 50 years. In the 13 years that had elapsed since the National Association last discussed the prevention of tuberculosis from the viewpoint of the home and the factory two statistical periods were represented. The first was the war period, during which mortality from pulmonary tuberculosis rose, the rise being confined to the ages 15 to 30 years. In this country the rise was particularly investigated for women, and was shown to be in direct proportion to the extent to which they were called upon to perform munition work. The second was the post-war period, during which the trend of the pre-war fall was resumed, affecting chiefly the ages 15 to 30 years. This fall occurred while overcrowding, due to inadequate housing, was at its height, and apparently had been in no way affected for better or for worse by amelioration in the housing position. Unhygienic environment appeared, as far as tuberculosis was concerned, to be of far less importance than malnutrition.

The position seemed to be that there was a ubiquitous endemic infection. In infancy it carried off those who had inherited no resisting power; in early adult life it carried off those whose resisting power was lowered either by impaired digestive powers or by a dietary inadequate for their needs; in middle life it carried off those for whom the wear and tear of early adult life had been heavy. The two latter groups were particularly represented in occupational life. Heavy work on entering industry and low pay, entailing an inadequate dietary, predisposed to the disease in early adult life. Industrial life for most women terminated with marriage, while for men it continued throughout life. The pronounced difference, then, which existed between the mortality from tuberculosis of males in middle life and that of females might reasonably be ascribed to industrial conditions. To-day the stronghold of tuberculosis when estimated by the mortality from phthisis at age-periods per 1000 living was found among males of middle age in industrial districts; but mortality at this period of life might reasonably be held to represent the cumulative effect of industrial life as lived during the last 30 years. The effect of the shorter hours of work customary to-day would only become manifest as years passed by. When they reviewed the fall in phthisis mortality since 1860 it was found to have been most pronounced in infancy, at that period of life when infection was the only factor at work, and to have been least pronounced in middle age, when infection was greatly aided by wear and tear. The conclusion presented was that the amount of tuberculous infection had been diminishing; it might still be ubiquitous, but it was less intensive. The point where the enemy was weakest lay in the control of infection. The method for following up their advantage was clear. They must recognise that tuberculosis was infectious; they must recognise the tubercle carrier, just as they did the typhoid carrier; they must eliminate the infected from their factory industries and place them in industrial colonies; they must continually impress upon the public the infectious nature of tuberculosis. Finally, when, as the incidence of the disease continued to fall, sanatorium accommodation was sufficient for housing and treating all the remaining cases, strict segregation must be adopted. Not until they controlled the infection would the disease be finally eliminated.

Sir THOMAS OLIVER (professor of medicine, Durham University) said that overcrowding was one of the greatest causes of illness, and especially of tuberculosis.

Mr. Councillor C. W. ALLISON (Stockton-on-Tees), in the course of the discussion, said that employers needed educating as to what was their duty towards the workers. In a new industry started in his district stone was first drilled by a wet process, but when customers objected to the moisture a dry drilling process was substituted, as a consequence of which the workers were likely to suffer from phthisis. The Chairman said that he would take the earliest opportunity of bringing the matter to the notice of the Ministry of Mines.

At the conclusion of the discussions visits were arranged to various institutions and housing schemes, including Preston Hall, L.C.C. housing schemes at Hammersmith, Burrow Hill Colony, Frimley, and Welwyn and Letchworth Garden Cities.

Reviews and Notices of Books.

THE SCIENCE AND PRACTICE OF SURGERY.

By W. H. C. ROMANIS, M.A., M.B., M.Ch. Cantab., F.R.C.S. Eng., F.R.S. Edin., Senior Surgeon in Charge of Out-Patients and Teacher of Practical Surgery, St. Thomas's Hospital; Surgeon to the City of London Hospital for Diseases of the Chest; and PHILIP H. MITCHINER, M.D., M.S. Lond., F.R.C.S. Eng., Surgeon in Charge of Out-Patients, Teacher of Operative Surgery and Demonstrator of Anatomy, St. Thomas's Hospital. London: J. and A. Churchill. 1927. Vol. I., 795 pages. Vol. II., 956 pages. 14*s.* each volume.

THE writing of a text-book of surgery for undergraduate students at the present day is a laborious undertaking. It requires a nice judgment in the selection of material, in the rejection of much that occupies the minds of progressive surgeons but is of a debatable nature, and particularly in the method of presentation to the reader. Above all things, the undergraduate must be taught facts and the general principles upon which surgery is based. Pure hypothesis and speculation, unless they are intrinsically necessary for the understanding of treatment, should be left for later study. It is, therefore, with these considerations in mind that such a text-book as that before us should be approached.

Vol. I. begins with general considerations. It describes the materials and chemicals used in surgery, their use and preparation, sterilisation, the pre- and post-operative treatment of patients. Inflammation and repair occupy a very few pages and this section, together with that on bacteriology, might almost have been omitted without much loss to the book. The general infections, syphilis, tetanus, anthrax, and so on are succinctly described and give the student in a short space all that he need know of these diseases. Indeed, that part of the subject usually included under the term general surgery is all well done. Thus the section on tumours describes the ordinary new growths met with by the surgeon, the most common sites of their origin, and gives an account of appropriate treatment, the whole section being adequate and yet not long enough to confuse the undergraduate student. Chapters on bone and joint diseases present short but clear summaries of a branch of surgery which always presents many difficulties to the beginner. On page 311 there is a slip in the formula for the normal reaction of nerves to the galvanic stimulus. The recent requirements of examining boards as to knowledge of X ray methods are met by a chapter written by Mr. Geoffrey Fildes.

Vol. II. is a treatise on regional surgery. Here again difficulties have been successfully overcome, particularly in the chapters on the surgery of the cranial contents. The management of head injuries conforms to modern practice, but there is no mention of that very useful instrument, the spinal manometer. Naturally the experienced reader turns soon to the section on exophthalmic goitre, a subject upon which one of the authors has done much work. Here we find the statements that spontaneous cure very rarely occurs, that medical treatment should be tried for some months, that failure to improve is very common, whilst operation is usually followed by excellent results. According to the authors rapidity of heart-rate and cardiac dilatation are not contra-indications to operation, but evidence that the heart is failing is a contra-indication. But what else is cardiac dilatation but evidence of overstrain of the heart and failure to maintain the circulation with intact walls? The authors do not practise ligations of thyroid vessels and avoid operation during the second six months of the disease. They do not mention the use of basal metabolic estimations in judging the effect of treatment or in deciding whether an operation is indicated. The abdominal section of the book is written on the usual lines and is good. Here and there individual opinion is very emphatically expressed, as, for example, in the treatment of appendicitis, but due acknowledgment of other views has been given. The remainder of this volume maintains the high standard set up in the first.

It would, of course, be easy for the specialist in any branch to criticise on the score of omission almost any section of the work. For instance, the stomatologist might expect, with some reason, a reference to the latest work which has been done on the treatment of carcinoma of the tongue with radium. But the authors have evidently considered this beyond the range of the book, and any but a very exacting critic will bow to their decision. If we regard the book as a whole it becomes obvious that the authors have got their values right. They present a well-balanced account of the science and art of surgery as practised at the present day. One very good feature is the inclusion of the specialties, including gynæcology so far as it concerns the general surgeon, and diseases of the eye, nose and throat, so that a student preparing for a pass examination in surgery need not buy a number of books dealing with its different branches. If he absorbs the information contained within the covers of these volumes he will certainly satisfy the examiners, and will, moreover, have acquired a very good basis of knowledge should he have ambitions for higher degrees in surgery. There was room for this text-book, and the authors are to be congratulated upon the production of a very useful and practical manual for the undergraduate student. The price is very moderate.

ANATOMY.

Lehrbuch der normalen Anatomie des Menschen. By Prof. Dr. F. SIEGLBAUER, University of Innsbruck. Berlin and Vienna: Urban and Schwarzenberg. 1926. Pp. 908. M.21.

HERE is an excellent book on formal anatomy, and this in spite of the absence of any figures or diagrams. Prof. Sieglbauer has foregone illustrations of set purpose, and even if we do not agree with all the reasons he gives for his decision, we must admit that he has produced a work which deserves cordial praise. He has well covered the ground necessary for the student, his descriptions are reliable, and his style of presenting the subject is interesting, simple, and concise. The author is evidently a Greek scholar and enthusiast, and brings the humanities to bear on his writings. Altogether this is a book of unusual merit.

Toldt's Anatomischer Atlas. Thirteenth edition. By Prof. Dr. FERDINAND HOCHSTETTER. In three vols. Berlin and Wien: Urban and Schwarzenberg. 1927. Pp. 984. M.36.60 and M.42.60. *Toldt's Atlas of Human Anatomy.* Revised edition. Adapted to English and American and International Terminology. In two volumes. By EDEN PAUL, M.D., M.R.C.S., L.R.C.P. New York: The Macmillan Company. 1926. Pp. 985. 42*s.*

Toldt's Atlas is a classic in the anatomist's library, and it was with peculiar pleasure that we have received these two separate issues of the famous work. Prof. Hochstetter's edition, although it preserves practically all the old familiar figures, presents some new features in the shape of many excellent drawings, executed in the spirit of the original, while the addition of X ray photographs, associated with the areas under illustration, makes a valuable inclusion. Some new embryological figures are given; it is surprising to find that no advantage has been taken of the recent work on development of veins. We welcome this new edition of an old favourite.

The revised edition of Dr. Eden Paul's translation of the Atlas will also be welcomed by English-speaking students, because of the excellent notes and references introduced by the translator. It is refreshing to read these addenda. We have been rather drifting away from the old body of descriptive anatomy bequeathed to us by our fathers, or perhaps it might be said that, while working at its internal scope and

bearing, we have tended to take only a secondary interest in its outer boundaries and appearance, and notes such as these are good correctives to such want of attention. The two volumes ought to be in every anatomical library.

STOMACH DISORDERS.

A Handbook of Diseases of the Stomach. By STANLEY WYARD, M.D., M.R.C.P., Physician to the Bolingbroke Hospital. London: Humphrey Milford, Oxford University Press. 1927. Pp. 387. 16*s*.

THE main facts concerning disorders of the stomach are so well stated in this book that it should form a useful volume in any practitioner's library. Perusal of the sections dealing with hæmatemesis, gastric cancer, or the treatment of peptic ulcer is sufficient to disclose the wise judgment of the author, and the fact that he writes after deep reflection and much experience. We have, for instance, seldom read a more closely-reasoned account of the factors for and against the surgical treatment of gastric ulcer. The book may be criticised on the ground that the arrangement of the matter in the various chapters does not show strict logical sequence. Why, for instance, dyspepsia, hæmatemesis, and a heterogeneous assortment of symptoms called "conditions of unknown pathology" should form the three parts of Chapter VI. it is a little difficult to understand. And again, in a book which for obvious reasons omits description of cholecystitis and pancreatitis, the inclusion of sections on psittacosis and infantile diarrhœa is rather baffling. It would, however, be wrong to allow these defects of arrangement to disguise the excellence of a little book which is far better than many pretentious volumes dealing with the same subject.

The author at times allows his individual opinions some prominence, as when he defends imported meat on page 53, and condemns both liquid paraffin and bismuth in Chapter V. There is a seeming contradiction concerning pain in gastroptosis on page 172, and on page 347 an unfortunate transposition of the numbers referring to charts renders the text unintelligible. The numerous X ray illustrations, on the other hand, are beautifully clear and serve their purpose admirably.

TUBERCULOSIS OF THE MIDDLE EAR.

Das Problem der Mittelohrtuberkulose. By Dr. A. I. CEMACH. Berlin and Vienna: Urban and Schwarzenberg. 1926. Pp. 224. M.9.

Dr. Cemach has thoroughly examined a large number of cases of tuberculous disease of the ear with interesting results. He divides his cases into three groups. He examined the consumptive patients of an entire army corps, numbering 2342 (Group I.); among these he found 258 cases of aural suppuration, of which 63 were acute and 195 chronic; of the acute cases 5, and of the chronic cases 51, proved to be tuberculous. Classified according to the stage of the pulmonary disease, the results were: first stage, 716 cases, 7 with aural tuberculosis, or 1 per cent.; second stage, 1152 cases, 25 aural, or 2·1 per cent.; third stage, 474 cases, 24 aural, or 5 per cent. Among 1320 soldiers with apparently healthy lungs (Group II.) he found 59 cases of middle-ear suppuration, of which 3 proved to be tuberculous. Group III. consisted of 300 cases of aural suppuration among adults; of 81 acute cases, none were tuberculous, and of the remaining 219 chronic cases, 14, or 4·7 per cent. of the total, had tuberculosis of the ear. These details show the considerable number of cases dealt with; it is to be observed that they are all adults. Dr. Cemach deals exhaustively with the question of diagnosis; he considers a negative Pirquet reaction very valuable in the exclusion of tuberculosis in ear disease, but lays most stress on a positive focal reaction from subcutaneous injection of tuberculin, and claims that the method is only dangerous in acute and progressive cases. In the search for the tubercle bacillus he employs Petrov's method of cultivation on an egg-medium, using gentian violet to inhibit the growth of associated bacteria. As to treatment, the indications for operation are the same as in non-tuberculous suppuration; the author insists strongly on the value of tuberculin in skilful hands; he holds that this method of treatment should not be undertaken by the otologist, but by a specialist in tuberculosis working in conjunction with him. The author evidently holds strong opinions, which will not meet with universal acceptance, but he supports his arguments well; the book, although too verbose, provides plenty of material to interest other workers on tuberculosis as well as otologists.

ANIMAL NUTRITION AND VETERINARY DIETETICS.

By R. G. LINTON, M.R.C.V.S., Professor of Hygiene, Royal (Dick) Veterinary College, Edinburgh. Edinburgh: W. Green and Son. 1927. Pp. 399. 21*s*.

THIS book is a welcome addition to veterinary literature. It will help the students as well as the practitioner, since it brings all the essential facts connected with nutrition before them in one handy volume. Without a thorough knowledge of how animals are fed in health the veterinary surgeon cannot know how to feed them when they are ailing. The practical agriculturist also will find much to interest him. Prof. Linton has divided his subject-matter into six sections, of which the first deals with the composition and function of foods, the second with the foods, the third with their nutritive value, and the fourth with their preparation and storage. The last two sections are devoted to the feeding of cattle, horses, sheep, pigs, dogs, and poultry, and to the consideration of certain foods which are harmful. An appendix gives the weight of foods by measure, and the composition and nutritive value of foods. Here and there in the book one finds a little more information than the title would lead one to expect—for example, in the fifth section recommendations are given regarding the hygienic treatment of the new-born calf.

The book is almost entirely a plain statement of fact. Little controversial matter is included, and the reader will consequently find little to criticise, except perhaps it be the statement on page 43, that "evidence is constantly increasing which tends to show that many diseases of farm animals owe their origin to malnutrition." If the author had said "some" diseases, more of his readers would have been inclined to agree with him. Recent years have shown a tendency for some investigators to accept wholeheartedly the view that by feeding animals properly diseases will to a large extent disappear, just as another school holds to the view that diseases, even the dread foot-and-mouth disease, can be *bred* out of our flocks. Such views are worthy of careful and polite consideration, but their wholehearted acceptance is likely to lead to disappointment.

COLLOIDAL REACTIONS OF THE CEREBRO-SPINAL FLUID.

Les Nouvelles Méthodes sur les Réactions Colloidales du Liquide Céphalo-rachidien. By EUGENE DE THURZO. Paris: Maloine. 1927. Pp. 182.

THIS book contains full accounts of the well-known colloidal reactions of the cerebro-spinal fluid, such as the Lange colloidal gold reaction and the colloidal benzoin reaction. In addition to these standard methods a series of extraordinary reactions which are little known in this country is described and their diagnostic value discussed. These seem to us nebulous both with regard to their method of application and to the deductions made from the results obtained. A short bibliography is included after each chapter. The information contained in the volume is little more than that given in the ordinary text-books and manuals of practical pathological and laboratory diagnostic methods.

THE LANCET.

LONDON, SATURDAY, JULY 16, 1927.

CANCER OF THE LUNG.

DURING the last four or five years several pathologists in Europe and America have drawn attention to the fact that cancer of the lung has become substantially more frequent in their experience than it used to be. In our present issue Dr. J. B. DUGUID discusses the relevant data from the Manchester Royal Infirmary, and there is certainly an unpublished impression among the pathologists of several other British hospitals that they have observed a similar increase. When an attempt is made to translate this impression into the neat statistics which are so desirable a good many difficulties arise, and this perhaps explains why more has not been published on what seems to be an extremely interesting and important subject for cancer research to engage with.

There is, in the first place, the difficulty of clinical diagnosis. Intrathoracic tumours give rise to a variety of symptoms, which do not necessarily lead direct to a correct diagnosis. In large hospitals with skilled clinicians and adequate technical equipment the error is now probably small; in less specialised practice it is probably very considerable. In any case, death certificates could not be regarded as good enough for the details of the inquiry. In the second place, if the scope of the inquiry is limited to the data obtained at autopsies (and in fact it is from this source that the described increase has been identified), the nature of the tumour found is not altogether certain. Definite carcinomata of bronchi, either spheroidal or squamous-celled, constitute only a proportion of the cases under discussion. Commoner than either of these is the tumour known in the past as an "oat-celled sarcoma" and believed to originate in the mediastinal glands. Recent scrutiny, well described by Mr. W. G. BARNARD,[1] seems to show fairly conclusively that these growths are really carcinomata too. If that is so, most (though not all) of the "sarcoma of mediastinum" of the older records should be grouped as carcinoma of bronchus. And, thirdly, having verified the diagnosis by autopsy and agreed upon the nature of the tumour after microscopical examination, we are faced with the difficulty which is always present in any attempts to ascertain the real prevalence of a disease in time and place from its occurrence in the selected class which constitutes our hospital population. It is, we believe, very nearly impossible to obtain a precise comparison between any two hospitals, or between any two periods in the same hospital. The criteria of admission differ very widely and with the progress of medicine and surgery are constantly changing; an Addison or a Horsley on the staff may upset the statistics of an institution as seriously as do the available beds in proportion to the population, the presence of a medical school, or the standard of the local Poor-law infirmary. Recognising these difficulties, one has to express the figures as best one may: the percentage of cancers of the lung (or intrathoracic tumours) on the total admissions to the hospital, on the total autopsies made, on the total autopsies in which malignant disease was found. Dr. DUGUID uses the second method; several observers have used the third which is perhaps the least bad, but none is perfect.

Giving all the weight they deserve to these criticisms of any numerical measurement which may be made, there is, we believe, ample evidence that the statement "cancer of the lung is considerably commoner than it used to be" is true. There seems also to be no doubt that it is much more frequent in men than in women—i.e., that it is connected either with a male habit or with occupational rather than home life. Further than this it seems hardly possible to go at present; we hope that some of the cancer research organisations will take up the problem intensively, for it is evident that most important evidence can be obtained if the disease can be definitely traced to some mode of life. It should be possible to do this and various suggestive relationships have been put forward already. Dr. DUGUID finds that a remarkably large proportion of his cases were occupied in one way and another with road traffic; road traffic as a whole has, of course, enormously increased but the emanations from motors, including particles of oil, and the use of tar on the roads, are obvious possibilities. Experimentally, tar and other products of the combustion of coal have a unique carcinogenic efficacy, and Dr. A. N. KINGSBURY has recently attributed [2] a scrotal epithelioma in a Tamil to the irritation of oil sprayed in antimalarial operations. Tobacco-smoking is much more prevalent than it was, and it is one of the signs of the times that the class from which general hospital patients are mostly drawn have changed pipes for cigarettes. Dr. E. FROMMEL, in an interesting paper [3] on their experience in Geneva, attributes the greatest importance to a dusty occupation, and his data seem to show that vegetable dusts (as in woodmaking) are as important as mineral particles. It is well known that various inflammations will cause metaplasia of the bronchial mucosa to squamous epithelium. The suggestion has been made that the increase in pulmonary cancer is due to the 1918–19 epidemic of influenza. If that is so, there should later on be a corresponding decline in frequency. But while we wait for time to answer that particular question it is most desirable that a concerted attack should be made on the whole problem—the more so because it seems likely that it is in large part soluble. Dr. DUGUID'S tentative findings might justify a grant from the Road Fund for the purpose.

[1] Journal of Pathology and Bacteriology, 1926, xxix., 241.

TWO CENTENARIES.

REFERENCES have been made in many places during the last year to the burden that is accumulating for our descendants through the modern habit of holding centenary celebrations, but no one will deny the perfect propriety shown by the authorities of Guy's Hospital when deciding to commemorate, in a full and dignified programme, the scientific work of that great son of their school, RICHARD BRIGHT. It was not the centenary of BRIGHT'S birth which was acclaimed last week, but that of the publication of the first volume of his "Medical Cases," the volume which contained the message which has proved of such signal importance to the world. The proceedings at Guy's Hospital formed an international testimony to BRIGHT'S fame. From the United States of America, from France and Germany, representative men of science came to add the voices

[2] Ibid., 1927, xxx., 504.
[3] Revue de Médecine, 1927, p. 31.

of their countries to the chorus of commendation, and from the many-sided eulogies there emerged a masterly picture of a great clinician. BRIGHT was simple in his objectives, undertook his investigations without prejudgment, had indefatigable industry, and, being neither precipitate nor vain, escaped the set-backs which attend the over-confident. He was a persistent critic of his own observations, and, though often he must have found that his accuracy had not been at fault, he continued to the end to apply to his latest collections of facts the same rigid testing which had led to his original discovery.

While centenary honours were being paid at Guy's Hospital and at the Royal College of Physicians of London to RICHARD BRIGHT'S genius, an address commemorating the services of LISTER was delivered at the Royal College of Surgeons of England by Prof. A. F. VON EISELSBERG, of Vienna. LISTER was only 6 years old when BRIGHT told the first consecutive story of the condition known as Bright's disease, and the reflection that must follow is, as Prof. THAYER pointed out in his oration at Guy's Hospital, that BRIGHT was remarkably early in employing scientific collaboration to the solution of clinical problems. His forerunners in medicine were isolated investigators whose success sprang from personal experience and personal experiment; the idea of team-work, which nowadays dictates the procedure of nearly all official and unofficial inquiries into disease, was hardly born, and the part that BRIGHT played in its introduction in itself stamps him as a pioneer of medical research. To-day the association of numerous talents furnishes the reason for the clinics of our teaching hospitals and is recognised as advantageous in every kind of investigation. But such an association is worthless for the study of disease unless it rests upon a basis of common belief; there must be an accepted conception of pathological processes. And LISTER'S pre-eminent gift to surgery lay in the provision of the unifying influence that his discoveries in relation to infection eventually exerted. They offered a new basis for research as well as for practice, and they made it possible for surgeons, united on the fundamental principles of infection, to direct their joint attention towards pathological problems beyond. The terms of reference of a research committee can be settled and the rôles of the members allotted in a way that 80 years ago was impossible; but RICHARD BRIGHT went very far in this procedure, and the greatest honour is due to him for his foresight and the modesty which underlay it.

Prof. EISELSBERG devoted part of his address to showing the extent to which this unity, promoted by LISTER, had enabled science to advance. The revolutions in technique had made possible BILLROTH'S successes in gastric surgery, HORSLEY'S work on cerebral localisation, and the study of endocrine disorders. Perhaps, he hinted, the ease of operative measures to-day sometimes tempted surgeons to excessive interference, against which it was necessary to guard at all times, and in this warning he called attention to some of the greatest difficulties which attend the work of the operating surgeon. Despite the possession of a fundamental basis of learning, and despite the high level of general teaching, there must be situations in which a given procedure will be a matter of routine for the man of great opportunities, or a legitimate invitation to the man of genius, while remaining hazardous for the less fortunately endowed. Some of Prof. EISELSBERG'S wise maxims on this and other aspects of the practice of surgery will be found in the report of his address published in this issue. Read together with Sir BERKELEY MOYNIHAN'S glowing tribute to the speaker they form an indication of Prof. EISELSBERG'S worthiness to receive the second award of the medal founded to perpetuate LISTER'S memory.

SCARLET FEVER.

Scarlet fever, though no longer the fatal and terrifying disease it once was in England, is still very common among us. During each year of the last decade some 80,000 cases have been notified on the average, and although the proportion of deaths has reached little more than 1 in 100, the interference with school education and with the daily life of the homes infected has been enormous, while a vast amount of public money has been expended no hospital isolation and treatment. The situation thus briefly indicated has induced the Ministry of Health to make an inquiry into the nature and efficacy of the measures at present carried out; materials furnished by the public health service and by fever hospital superintendents have been collected and analysed by Dr. A. C. PARSONS, and his report, which has just been issued,[1] contains the conclusions of a committee of medical officers of the Ministry on the main objects of the inquiry.

In his preface to the report Sir GEORGE NEWMAN recalls the three groups of problems presented by an infectious disease of wide prevalence. First, there is the cause, which in the case of scarlet fever is not yet fully ascertained. Then there is the problem of immunity, on which substantial progress has been made. Thirdly, there is the practical question of administration which cannot wait for the discovery of the cause or the solution of the problems of immunity. The present inquiry is concerned with administrative measures and the lessons to be drawn from their success or failure. In most parts of the country the principle of segregation has now been observed for a period up to 50 years or more—an appendix contains replies to a questionaire on this point from hundreds of sanitary districts—but this has not availed to achieve the effective prevention of the spread of scarlet fever. It is disappointing to learn, writes Sir GEORGE NEWMAN, that the exceptionally high rate of cases admitted to isolation hospitals, which to-day obtains, is not associated with a corresponding lowered incidence rate of the disease in the country as a whole. Nor does length of stay in hospital diminish the chance of the patient reinfecting his home on returning to it. The tendency therefore is for the routine application of these measures to give place to an intelligent application of the new knowledge of the relation of ear and throat conditions to infective processes, to the use of barrier-nursing and open-air treatment, and to the adoption of the Dick test and artificial immunity. If in these ways economy can be effected in the hospital isolation of scarlet fever, the use of beds can be reconsidered in the light of the incidence and severity of infectious disease prevalent in the locality. For in the last decade to set against the 10,672 deaths from scarlet fever there were 58,292 deaths from measles, 392,942 from pneumonia, and 13,645 from epidemic diseases of the central nervous system.

The conclusions reached by the committee of medical officers of the Ministry are based not only on the abundant statistical details obtained from the answers to the questionaire, but on a wide review of all the information available to the headquarters staff. The committee believe that in any well-ordered public health system both hospital isolation and home treatment must play a part; too little

[1] Some Administrative Aspects of Scarlet Fever. Reports on Public Health and Medical Subjects, No. 35. Ministry of Health. London: H.M. Stationery Office. 1927. Pp. 369. 6s.

attention has, they think, been devoted to the possibilities of efficient home treatment. There are districts and towns where home treatment is now being adopted at comparatively little cost and, as far as is known, without harm to the patients or the communities to which they belong. The further provision of nursing facilities would do much to ensure the successful development of these local experiments. In connexion with such home treatment the committee regard it as more rational to practise current rather than terminal disinfection—that is to say, to sterilise as quickly and as thoroughly as possible all articles exposed to contamination by the patient's discharges, and to observe a careful sick-room regimen during the whole time that the room is occupied by the patient. The destruction of remnants of food and fluids which have been handled by the patient demands more attention than it has hitherto received. These and other conclusions are stated in provisional, tentative, and guarded form, for the object of the report is to open the subject to wide discussion, not to close it. If the time is not ripe for universal action, the materials provided by Dr. PARSONS's very able and comprehensive report will bring it nearer.

Annotations.

"Ne quid nimis."

THE TREATMENT OF RABIES.

THIS country is fortunate in its freedom from rabies. Energetic muzzling stamped out the pest completely at the beginning of the century, and again when it was reintroduced in a dog smuggled by aeroplane during the war, and there has now been no case reported for six years. Switzerland and the Scandinavian countries are also fairly free, but everywhere else in the world it remains the same scourge that it was in the Middle Ages. The active immunity given by the Pasteur treatment has mitigated its terrors, but it is still a source of great loss and anxiety, and will remain so until facilities for treatment are so widespread that everyone exposed has immediate access to them. Statistics of the numbers treated are very difficult to correlate and far from being complete, but they show on the whole that the applications for protection grow considerably every year. The dangers of rabies and the existence of its antidote are now fairly well realised in all countries. The authors of a recent Austrian text-book,[1] in dealing with the results of protective inoculation, mention the chief difficulties of estimating the degree of protection it gives—namely, that it is very often unknown whether the bite was really infectious, and that individual immunity is so variable that it is impossible to determine whether any given patient would have developed the disease or not. What does stand out from the figures, however, is the importance of early treatment. With a week's delay the mortality-rate is 0·56 per cent.; with three weeks' delay it is 3·19 per cent. The percentage of fatalities among patients treated on the second day after the bite is only 0·088. The authors conclude that the Pasteur treatment reduces the probability of death in all cases from 10 per cent. to 0·6 per cent.

The method of protection has been little altered since its introduction in 1885, and consists of a series of injections of emulsion of an infected spinal cord which has been dried for varying periods. A dog is infected with rabies and killed at the height of the disease by bleeding; its spinal column is then removed and dried in caustic potash. After 12 or 14 days it loses all its virulence; after eight days an emulsion will still produce rabies now and again on injection into the dura; after five days it will evoke a normal attack, though with a slightly lengthened incubation period, and after four days or less its virulence is unimpaired. The weakening of its effect is purely quantitative. In Pasteur's original schemes the patient was given 14-day emulsion to begin with, the age being reduced by a day at each injection, until on the fifth day of the course he was getting six-day emulsion. Three-day virus was given on about the ninth day (earlier for severe and head-bites), and the whole course lasted 18–21 days. The virus was, of course, of the "fixed" type. After some years of use, however, it was realised that this series was not drastic enough; it let slip too high a proportion of cases, usually those with a more or less massive infection. Once it was realised that the fixed virus was practically non-pathogenic to man, the method was intensified, and the custom of nearly every institute is now to start straight away with five-day emulsion and decrease by a day on each of the first three days. A typical pattern in terms of emulsion-age is 5 4 3 2 4 3 2 3 2 3 2 3 2 2; the dose is 3 or 5 c.cm. daily. Although there has been little coördination between the many Pasteur institutes, the series in use differ but slightly one from another. Högye's method is similar, but dilution is employed instead of drying, and more use is made of variation in the dose. One of the most recent improvements in inoculation technique is that of Philipps. The brain is ground down with glycerine, and can be kept for some months in the dark at a low temperature; when required it is mixed with a 0·5 per cent. phenol and saline solution in the proportion of 1 part to 20. This mixture is heated at blood temperature for 24 hours to sterilise it. Out of 1540 patients Philipps had one death only. The chief technical advantage of this method is that a single substance is used throughout the whole series; the vaccine, moreover, can be transported any distance without losing any of its efficacy.

All these schemes have the drawback of requiring a period of from 13 to 25 days to complete them, and much work has been done to find a way of speeding up the immunising process. This is desirable not only for the convenience of everyone concerned, but for the greater safety of the patient, for the treatment is a race between the antibodies and the invading virus. The authors consider that the quickest and safest method is now that of Hempt, the director of the Pasteur Institute in Novisad, Jugo-Slavia. Brain substance is kept in 50 per cent. glycerine for a period varying from a few days to 24 hours, inversely with the severity of the wound. An emulsion of 1 part in 60 is made up for injection, and the doses fixed likewise according to the nature of the lesion; the total amount given is 4 g. for a head-bite, 3 g. for deep wounds, and 2 g. for slight tears. The treatment takes five days only, and the patient gets two injections a day; the first is of 5 c.cm., the next two of 10 c.cm., then one of 15 c.cm., and the remainder of 20 c.cm. On the last day three injections are given. A very severe case, where there has been a long delay, may have a sixth day of three injections. The results in a series of 2011 patients have been uniformly excellent. One only died, and he had undergone a delay of 16 days. In the latest modification of all, Remlinger proposes to employ undried cord kept in glycerine for varying periods; the virulence of the emulsion will be much greater than that of the preparation of dried substance. The first injection is to be of 25-day emulsion, which is sterile (the virulence disappears suddenly after about 24 days), and succeeding injections will be of rapidly increasing potency. The course is a five-day one. This method has not yet been sufficiently tested to be put into practice. The developments in packing injection-material for transit are perhaps the most important feature of the book from the standpoint of the administrator, for only when every general practitioner in the world can give the protective treatment will the problem of human infection be adequately dealt with. Even then there will remain the infinitely greater one of eradicating the disease from domestic and wild animals.

[1] Lyssa bei Mensch und Tier. Prof. Dr. R. Kraus, Dr. med. vet. F. Gerlach, and Dr. F. Schweinburg. Vienna: Urban and Schwarzenberg. 1926. Pp. 464. M.30.

PASTEURISATION OF MILK IN THE U.S.A.

IT is now more than 30 years since Mr. Nathan Straus, of New York, began his campaign in favour of milk rendered safe by heat. In 1908 he was still fighting for adequate pasteurisation and against commercial pasteurisation by the "flash" process. At that time his definition of adequate pasteurisation was the exposure of the milk to 157° F. for 20 minutes, followed by rapid cooling, whereas by the "flash" process the milk was exposed to varying temperatures above and below 160° F. for perhaps a minute. The U.S. Public Health Reports (Feb. 11th, 1927) show that 28 of the milk-borne outbreaks of infectious diseases recorded during the last 18 years were attributed to inadequately pasteurised milk. The same issue expresses the belief of the U.S. Public Health Service "that pasteurisation of milk is the most potent single force operating to prevent the transmission of milk-borne diseases," and states that the service is at present engaged in a study of apparatus in order to assist milk-control officials to formulate proper definitions and to secure improved methods. The issue of the reports for April 29th carries the matter a stage further. It indicates that flash pasteurisation has disappeared from the scene, and that the majority of State definitions of pasteurisation specify a temperature of 142° F. or 145° F. and a holding time of 30 minutes. The difficulties of securing the desired result are considerable. Even if the thermometer stands at the specified level for 30 minutes it is not certain that every particle of milk will reach the required temperature owing to cold pockets, foam, valve leakage, and unsatisfactory devices for indicating and controlling temperature and time. The inspector may not have all the technical information necessary to make the theoretical definition effective. Should the definition require an "approved apparatus" the local health officer would have to employ a sanitary engineer. And if every particle of the milk has to be pasteurised a higher margin of heat may have to be adopted which will interfere with the cream line, and interference with the cream line will produce serious public opposition to the universal use of pasteurised milk. Illustrations are given in the report of the modified apparatus designed to meet these difficulties. While the tests carried out by the Public Health Service have disclosed many defects these have, we learn, promptly been made good for the most part by modifications made on the spot without the apparatus being returned to the manufacturer.

This report should be of great value to those who have the supervision of pasteurisation in this country. We doubt if the British public is sufficiently interested in safe milk as yet. In reply to a question in Parliament on May 25th it was stated that there are now only 120 pasteurising establishments in England and Wales complying with the Ministry of Health's regulations and their definition that "pasteurised milk" must be retained at a temperature of not less than 145° F. and not more than 150° F. for at least 30 minutes and must then be cooled immediately to a temperature of not more than 55° F. We have heard of milk dealers who have installed a "holder" apparatus, but do not apply for a licence because they find that their customers are not interested in the question of adequately pasteurised milk. Another point arises in view of the American experience. A fee of £1 1s. is paid in respect of each plant. Does this imply that the local authority which grants the licence takes any responsibility with regard to the efficiency of the plant? Or, on the other hand, have we adopted the principle that the public health authorities are to judge the efficiency of the plant solely by the periodical bacterial examinations of the milk treated? It is obvious that the regulation that milk must "not be pasteurised more than once" cannot be enforced either by inspection of the plant or by examination of the milk. Furthermore, it does not seem probable that the officials in this country, whose duty it is to inspect the apparatus before the licence is granted, are better equipped with technical information than their colleagues in the U.S.A. All things considered, we cannot expect to get very far with voluntary methods, and ultimately, when further experience has been gained, it may be necessary to enforce pasteurisation of all milk except the two upper grades (Certified and Grade A (T.T.)) if we really wish to secure a safe milk-supply for a public that is not enthusiastic either for or against but rather expects such matters to be arranged for it by the statutory public health authorities.

BLOOD GROUPING IN EUROPE AND AMERICA.

THE nomenclature of blood groups was discussed at a meeting of the Health Committee of the League of Nations, of which a report has just been issued. Dr. T. Madsen, the President, pointed out that there were differences between the nomenclature adopted in Europe and America, and the Committee had been asked to secure international uniformity. The main difficulty was that the problem was not one for governmental regulation, though in a certain number of countries—notably Denmark—it was receiving official attention. There seemed to be no need to hold an international conference, since the question was not so much one of technique as of form. Correspondence would go some way towards defining the difficulties, and eventually a small number of persons might be called together to examine the possibilities of agreement. It was decided that the Section of Hygiene should investigate the problem on these lines.

CARBON TETRACHLORIDE IN THE TREATMENT OF DISTOMIASIS IN SHEEP.

CARBON tetrachloride was first used as an anthelmintic in animals in 1921 by M. C. Hall, then senior zoologist to the U.S. Bureau of Animal Industry,[1] who, in conjunction with Shillinger, in 1923 showed the drug to be an efficient and fairly safe remedy against certain nematodes in the alimentary canal. In 1922 this drug was used by Jeffreys in America against intestinal flukes in foxes, and in 1925 and 1926 was experimentally used in the British Isles for liver fluke (*Fasciola hepatica*) in sheep, by J. H. Norris in Ireland and R. F. Montgomerie in Wales. Since the publication of this experimental work large scale field trials have been made in this and other countries, and reports of the results are being awaited with interest. The drug has been shown to be very efficacious against the adult flukes in the bile-ducts of the liver, but, like extract of male fern, it has no effect upon the immature flukes in the liver parenchyma (the *F. hepatica* reaches the bile-ducts by direct penetration of the fluke embryo through Glisson's capsule). These immature forms become mature and are laying eggs in the bile-ducts in the fourth week after dosage, and consequently further dosage is necessary to destroy them. A dose of 1 c.cm. of carbon tetrachloride in gelatin capsule without previous starvation is sufficient to clear adult flukes from the bile-ducts of the sheep and, speaking generally, sheep will tolerate as much as 30 or 40 c.cm. of the drug in capsule. It is well to note, however, that in occasional instances flocks have been found which tolerate carbon tetrachloride badly and deaths have resulted. This is a matter which is now under investigation in Great Britain. In the meantime it behoves those who are about to use the drug upon sheep to try a few sheep first and find out how the drug is tolerated by the particular flock before dosing large numbers. Carbon tetrachloride possesses advantages in that sheep can be treated without preliminary starvation and can be dosed even when heavy in lamb or with lambs at foot. If further experiments can explain the reasons why carbon tetrachloride should prove toxic in some flocks and not in others, and if this toxicity can be avoided by some simple means, the drug will probably replace extract of male fern as a remedy for the cure of

[1] THE LANCET, 1922, i., 391.

distomiasis in sheep. The presence of impurities has been held by many workers to account for the variations in toxicity. Its application to human parasites was the subject of considerable discussion in 1924.[2] M. Khalil,[3] working in Egypt, has been attempting to discover whether the toxicity is attributable to sulphur impurities. Harold King has found carbon bisulphide in samples submitted to him for testing by the Medical Research Council, but in experimental animals Khalil found that a mixture of carbon tetrachloride and carbon bisulphide had no ill-effects. He is inclined to attribute the toxicity to the presence of sulphur compounds other than CS_2 and gives directions for getting rid of impurities in commercial samples. During 1924 he says that 80,000 people were treated at the Government hospitals by this drug without any fatalities.

PHILOSOPHY.

COMMON experience has amply shown that in education there are two disciplines which have conspicuous merit in helping the mind to learn to think accurately. One is the attempt to find the exact equivalent of the ideas of one nation in the language of another, which is translation. The other is to discover a coherent interpretation of human experience which can be expressed in words, which is philosophy. And anyone knows that medicine is as much in need as any subject of accurate thought and a nice appreciation of the meaning of words. Two years ago the British Institute of Philosophical Studies was founded with the special object of establishing a link between the professional philosophers and the educated public, and its second annual meeting was held on July 4th. The President is the Earl of Balfour, the chairman of council Prof. L. T. Hobhouse, the deputy chairman the Master of Balliol; the council is a long list of distinguished and respected names. There are some 1600 members and more than 500 enrolled for the courses of lectures which were given last winter, among which we notice a series on "Medical Psychology" by Dr. T. W. Mitchell. The Institute also publishes a quarterly journal from 88, Kingsway, London, W.C. 2, and obviously deserves the support of those who are seriously interested in intellectual progress.

THE COST OF NOISE.

THE report on harmful noise, which Prof. H. J. Spooner submitted to the International Fatigue Committee of the American Society of Industrial Engineers on May 26th, should serve to keep attention fixed on this important subject, and contains many observations of general interest. He believes that the most serious aspect of the problem has hitherto not been considered; this is the loss due to impairment of efficiency in industrial life, more particularly by interference with men of affairs and principals, whose capacity for clear thinking and hard work is perceptibly weakened by the babel of noise. He estimates that the economic loss due to this kind of wastage may conceivably be a great deal over a million pounds a week in this country alone; and though this figure may well be an over-estimate, no one will deny that the attempt to do mental work in noisy and distracting surroundings tends to lower efficiency and produce irritability. The uproar of mechanically-propelled traffic and of other machinery in our streets is the most serious source of noise, and the noisy environment of hospitals, nursing homes, and schools calls for earnest attention. Prof. Spooner believes that the most nerve-shattering sound in our streets is caused by tramway-cars; he considers that these vehicles have lost most of the reasons for their existence since the introduction of motor omnibuses, and points out that they are being gradually scrapped and are doomed to ultimate extinction. Here, perhaps, the thought is but the offspring of the wish, in which many motorists must share from ulterior motives. He makes other recommendations of interest to motorists—namely, that noisy ramshackle motor vehicles should be warned off the streets, that motor horns should be standardised to a low melodious pitch, that louder hooters should only be used in emergencies, and that "driving-on-the-hoot" should be prohibited. Such reforms are undoubtedly desirable, though difficult to enforce, and a beginning ought to be made in the attempt to diminish the uproar of the streets. The further proposal is made that the pneumatic rock-drills, used for breaking up roads, should not be permitted in towns, and certainly not in the vicinity of hospitals and schools. In factories and works, Prof. Spooner urges, designers of machinery should pay more attention to the balancing of rotating parts, particularly of those working at high speed, and to the mounting of certain machinery on antivibration supports; noisy machinery means excessive wear and waste of power, and the noise tends to reduce the productive powers of the workers and may be a cause of accidents. We hope that the movement for the reduction or prevention of harmful noise will achieve its object by awakening public opinion.

THE PREVENTION OF DENGUE.

THOUGH not in itself serious, dengue is a very uncomfortable disease, and causes a considerable loss of service. During 1925 818 cases were reported from the army in India; no statement is made as to the average time lost, but in naval cases during the previous year it was eight days. The incidence of the disease at Aden is discussed by Major G. H. Dive in the *Journal* of the Royal Army Medical Corps for April. After examining the clinical records of the station for the last few years, he concludes that there is a short term fever endemic there, appearing every summer, and always dengue though often otherwise named. The troops become infected from April to July, afterwards acquiring a considerable degree of immunity, perhaps lasting two years, so that the infection only becomes prevalent again if a new regiment has reached Aden later than July. Major Dive ascribes dengue to the abundantly present mosquito *Aëdes argenteus*. Though the local fever is sometimes called sand-fly fever, he has never seen a case of that disease at Aden, nor has he seen a phlebotomus there.

An epidemic of dengue occurred at Saigon in 1926, very fully and instructively reported by Dr. R. Pirot, a surgeon in the French Navy,[1] special attention being given to the cases on his own ship, *Craonne* (125 men). She reached Saigon from France in February, and on April 25th one of the crew returned from leave at Cape St. James and slept on the upper deck, unprotected by a mosquito net. On April 28th he sickened with what was later found to be dengue. As Dr. Pirot suggests, the subsequent history is illuminated by the work of Siler, Hall, and Hitchens.[2] Female *Aëdes egypti* (*stegomyia fasciata*) no doubt bit the first patient; after 11 days they became infective and bit other men of the ship who developed dengue from four to six days later. Sixteen cases came under notice between May 15th and 31st. In June dengue spread to other ships and establishments and Dr. Pirot saw 130 cases in the hospital; 80 per cent. of the Europeans of *Craonne* were attacked. There were on board her many *Aëdes egypti*, particularly gorged females, more of them being on the side of the mess-deck next the quay than on the outer side next the stream. Like Major Dive, Dr. Pirot notes the difficulty in such a climate of making men sleep under mosquito nets, and his opinion is that the aëdes mosquitoes should be exterminated, so that there would be no more dengue. Valuable information about the means of extermination of *Aëdes egypti* will be found in a paper[3] by Colonel W. P. Chamberlain, Medical Corps, U.S. Army, the chief health officer of the Panama Canal. Discussing

[2] THE LANCET, 1924, ii., 715.
[3] Ibid., 1926, i., 549.

[1] Arch. de Méd. Navales, 1926, cxvi., 305.
[2] See THE LANCET, 1926, i., 453.
[3] Military Surgeon, April, 1927.

the prevention of yellow fever for 22 years, extinct in the Canal Zone (unless imported), he points out that *Aëdes egypti* is a short-flying, domestic species which develops almost exclusively in artificial water-containers in the house or yard, and that its reproduction is best prevented by a properly piped water-supply, making cisterns unnecessary and permitting tanks and wells to be closed. The rest is conservancy, and breeding must cease if inspection does away with broken pots, old tins, sagging gutters, and the like which make casual pools in the rains. Besides, aëdes remain located in the house where they are infected and can be killed there by fumigation or otherwise The lesson appears to be that dengue need no longer be endured, since aëdes can be got rid of so much more cheaply than anopheles. Meanwhile, seeing that patients with dengue, as with yellow fever, are only infective to aëdes in the first three or four days of their illness, we must learn to diagnose the condition at once and put the patients under mosquito nets, while the mosquitoes that have been near the patient in his house or ship should be all immediately killed.

The essential, however, is to make it impossible for these mosquitoes to breed. That is how Gorgas banished yellow fever from Havana and the Canal Zone, and surely we might do as much at Aden and elsewhere now that the stages on the road have been made so plain.

THE EVOLUTION OF VACCINIA VIRUS FROM EPITHELIOMA CONTAGIOSUM.

IN a recent article on the mechanism of virus infections [1] we drew attention to a remarkable phenomenon exhibited by many virus diseases, which has no counterpart in bacterial diseases. Many virus infections in their clinical behaviour and in their spontaneous infectivity appear to be distinct and specific diseases. But experimental transmission can often break through this specificity and thus establish the same causal agent for apparently distinct virus diseases. Evidence is gradually accumulating that the vaccinia virus, for instance, can affect widely different species and there set up lesions which formerly were considered to be distinct diseases. Thus the observations of Heelsbergen and of Toyoda on fowl-pox, and of Zwick on stomatitis pustulosa contagiosa of the horse, have shown that these diseases are closely allied to each other and to Jenner's horse-pox and other animal variolas. A recent paper by Dr. C. G. Pandit [2] adds further evidence on this point. By intracutaneous inoculation of calves with the infective material from epithelioma contagiosum of fowls and subsequent repeated passages through calves, monkeys, and back to calves again Dr. Pandit claims to have evolved a strain of vaccinia virus producing the typical lesion and conferring immunity to inoculation with vaccinia virus. An interesting point is that calf passages alone are not sufficient to effect this development, but that the interposition of a passage through monkeys is necessary. The skin and cornea of rabbits reacted negatively to inoculation with the infective material taken directly from fowl-pox. But when inoculated with passage material obtained from different stages of development of the strain, a successful reaction was obtained first on the cornea, and in later stages of development also on the skin. In our article, referred to above, we pointed out in connexion with recent work on mosaic disease of plants that many of the apparently paradoxical phenomena observed in the experimental transmission of virus diseases may be due to the fact that the infective material is loosely identified with the "virus." But actually in transmitting the disease the whole infected tissue is used and this in addition to the virus probably contains other substances which modify and determine the pathogenic action of the virus. The present series of observations present features very similar to those recorded in the transmission of mosaic disease from one species of plant to another and are capable of the same explanation.

[1] THE LANCET, 1927, i., 32.

[2] The Relation of the Virus of Contagious Epithelioma of Fowls to the Virus of Variola and that of Vaccinia. I. The Evolution of a Strain of Vaccinia Virus from the Virus of Contagious Epithelioma of Fowls. Indian Journal of Medical Research, 1927, xiv., 885.

TYPE CULTURE COLLECTIONS.

THE recent publication [1] of the catalogue of the cultures maintained by the American Type Culture Collection is a reminder of the solid if unobtrusive progress that has been made in recent years in the equipment and maintenance of new collections of bacteria and of the remodelling of existing ones. In the years before the late war the principal source of world supply was provided by the collection maintained by Král on a commercial basis at Prague. This collection was, after the war, transferred to the Serophysical Institute at Vienna, where it is under the direction of Dr. Ernst Pribram. In addition, the collection of the Pasteur Institute in Paris maintained by Mr. Binot and the private collection of the Lister Institute in London formed other sources of supply. But these were not widely available and were for the most part confined to bacteria of purely medical interest.

In 1911 a Bacterial Collection and Bureau for the Distribution of Bacterial Cultures was established at the American Museum of Natural History in New York City under the curatorship of Dr. C. E. A. Winslow. In 1922 the collection was transferred to the Army Medical Museum in Washington, D.C., and was placed under the control of the Society of American Bacteriologists, pending more permanent arrangements. For the last couple of years the collection has been under new management and has been housed in Chicago at the John McCormick Institute for Infectious Diseases, with Dr. G. H. Weaver as curator and under the general direction of a committee representing the Society of American Bacteriologists, the American Phyto-pathological Society, the American Zoological Society, and others. In addition to the organisms actually maintained at the Institute, the private collections of special workers, such as the mycological collections maintained by Dr. Charles Thom and Miss Margaret B. Church at Washington, D.C., and the soil actinomyces maintained by Dr. S. A. Waksman at New Jersey Agricultural Experiment Station, are available to the American research worker through the good offices of the Type Collection. The catalogue which has been issued recently to some extent follows the form that has been adopted by the National Collection of Type Cultures in this country, and is of interest to general and special bacteriologists and to the systematist. The wholehearted adoption of the classification devised by Bergey in his "Manual of Determinative Bacteriology" is not, however, beyond criticism, especially as the system of nomenclature has not met with anything like universal acceptance even in the United States. This criticism is in no way directed against the general labours of American systematists, who have accomplished much valuable spade work in this field and whose researches in general systematic bacteriology will be of the greatest assistance when the whole question of bacteriological nomenclature comes up for consideration—as we understand it may—at the next International Botanical Congress to be held in 1930.

In our own country the long-considered scheme of the Medical Research Council (then the Medical Research Committee) for the formation of a National Collection of Type Cultures bore fruit in the years following the war. In 1920 the Council were able, by courtesy of the governing body of the Lister Institute of Preventive Medicine, to make such a collection at the Institute under the general direction of Prof. J. C. G. Ledingham and the curatorship of Dr. R. St. John-Brooks, the existing collection of the Lister Institute forming a nucleus for future develop-

[1] American Type Culture Collection. Catalogue of Cultures, 1927. Waverly Press, Inc., Baltimore.

ment. Over 2000 strains of micro-organisms are now maintained there, and some thousands of cultures are distributed every year to workers in this country and abroad. In addition to supplying bacteria of importance in human and veterinary bacteriology the bureau has a collection of representative fungi of pathological and economic importance, and a collection of yeasts and other organisms of use in fermentation and allied industries. In this way many important strains have been preserved which otherwise might have been lost owing to changes in the personnel in charge of private collections elsewhere. For example, the Karlsberg Collection of yeasts and allied organisms is no longer kept on its previous basis, and many valuable strains might have been permanently lost if facilities had not been available for maintenance elsewhere. The mycological section of the National Collection is under the supervision of a standing committee of the British Mycological Society, which includes representatives of most of the important botanical institutions and teaching bodies in this country and has already been of considerable service to mycologists at home and abroad. In this connexion mention may be made of the Centralbureau voor Schimmelcultures, at Baarn, Holland, which is also available to British workers. Over a thousand species of fungi are kept there, and the collection is being constantly augmented. In addition to these establishments, private collections, many of them supplied in part from the resources of the British collection, are maintained in increasing numbers in various countries. Some of these, at any rate, may be considered as nuclei for future national culture collections. There is room for all, and they will all serve a useful purpose, giving ready and willing service to the workers in the local field and forming centres of exchange and friendly relationship with the collections of other countries. In this way valuable and historic strains will insure their maintenance, and increased facilities for comparison and for typing purposes will be available to workers throughout the world.

THE REPRESENTATIVE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

THE representatives of the British Medical Association when they meet at Edinburgh this week-end will have their first opportunity of considering as a body the recommendations of the Royal Commission on Lunacy, for the report of the Commission appeared just after the conclusion of the Nottingham meeting last July. To assist the meeting in its discussion of the report the Lunacy Committee of the Association has drawn up a critical memorandum from which it appears that in two matters of prime importance the policy of the Association is at variance with that of the Commission. These concern the protection for medical practitioners who sign certificates under the Lunacy Acts, and the facilities for treating the earliest manifestations of mental disorder. Suggestion is made that the Representative Body of the Association should press for introducing into the judicial detention order words indicating that before signing the order the judicial authority has satisfied himself that the medical practitioner concerned had exercised reasonable care. Such a statement would establish a presumption in favour of the practitioner should his conduct be brought in question subsequently. As to the facilities for treating early mental disorder, a recommendation is made by the Council of the British Medical Association that specialist work in connexion with the treatment of patients suffering from mental disease in its early stages should not be carried out by whole-time medical officers of public health or local government authorities, but on a part-time basis by medical practitioners who have special knowledge of the subject. The Royal Medico-Psychological Association, on the other hand, suggests that to divorce the diagnosis and treatment of mental disease in its early and late stages is scientifically and administratively unsound, and that the implied contention that medical staffs of public mental hospitals are not competent to treat early cases of mental disorders is ill-founded. Other subjects likely to provoke discussion at the representative meeting are the proper functions of laboratories under public health authorities; the allocation of any fees received for pathological work done in hospitals or medical schools from patients able to pay; and the attitude of the profession to the establishment by trading firms of laboratories as subsidiary enterprises for the purpose of offering pathological examinations and reports on individual cases.

THE ROYAL SANITARY INSTITUTE.

THE Thirty-eighth Congress of the Royal Sanitary Institute began at Hastings on Monday, July 11th. The members, numbering about 1500, included over 800 delegates appointed by local governing authorities in this country and also representatives of foreign Governments, India, the overseas dominions, universities, learned societies, and voluntary associations interested in health work. The Mayor of Hastings received the delegates and a public luncheon followed. In the afternoon the health exhibition was declared open, and later the Home Secretary, Sir W. Joynson-Hicks, delivered his presidential address. He referred to the organisation of the police forces and of the public health services as two of the great political achievements of the nineteenth century. Much had been done in the last 50 years, but much remained to be done. Many slums still existed. We had cleaned our streets, but we had still to clean our skies. He referred especially to the administration of the Factory Acts, which covered places in which 6,000,000 persons were employed. Large numbers of the workers could not return home to dinner, and remained in the atmosphere of the factory for three-quarters of their waking day. A new factory Bill was to be put before Parliament next session. It was 26 years since the last general factory Act was passed, and the object of the new Bill was to bring the backward factories up to the level reached by progressive employers. The standard of cleanliness was not always high, perhaps because women had taken no hand in it. The new Bill would strengthen the provisions as to cleanliness with the object of improving the health and efficiency of the workers and in food factories with a view also to the protection of the public. The tonic effect of better lighting would also have attention, and better ventilation would be aimed at, particularly to cope with the lowering of bodily vigour by stagnant air. Personal hygiene was another important matter to be fostered by the provision of cloak-rooms, washing facilities, overalls, and so forth. In a food-packing factory a higher standard of hand cleanliness had recently been secured by the provision of manicure treatment. Medical examination was recognised as a useful preliminary to work in factories, and re-examination in certain dangerous trades was required in order to prevent industrial disease in its early stages. About 15,000 cases of sepsis occurred in the factories in a year, most of which could be prevented if the workers made use of the first-aid boxes provided. Many employers now provided dental clinics. Further provision would be made in the new Bill for medical supervision, especially in industries where there is a low standard of health or a high sickness-rate. It was not proposed, however, to make the appointment of a factory doctor compulsory; no evidence had been submitted to justify such a step, and it was not clear that there was a demand for it by the workers of the country. In conclusion, the President referred to the many-sidedness of public health, to its positive as well as its negative tasks, and quoted the definition of hygiene as an art of which the practical aim is "to render growth more perfect, decay less rapid, life more vigorous, death more remote." The work of the congress, which is distributed over six sections, and seven conferences, began in earnest on the following day with the opening of the Section of Sanitary Science and three of the conferences.

Modern Technique in Treatment.

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CCXXXII.

THE TREATMENT OF CORNEAL ULCERATION.

ULCERATION of the cornea is probably, in the majority of cases, the result of trauma. But, in most cases, the trauma is of very slight degree, and the resulting ulceration is due to the fact that the condition of the cornea, conjunctival sac, and general state of the individual are favourable to the advance of septic processes. There is, however, a comparatively large minority of cases of ulceration of the cornea where the ætiology is different. In these cases bullæ form around the nerve-endings in the corneal epithelium, and these bullæ soon break down, forming small ulcers, usually multiple and often grouped in a branching pattern in the central zones of the cornea. This is the type of corneal ulceration often seen in association with febrile states, and is a peripheral expression of a poisoning or irritation of the nerve or nerve ganglion, and is not primarily the result of trauma. Mention should also be made of the ulceration of cornea associated with phlyctenular disease. The treatment of all types of ulceration is, generally speaking, the same.

Corneal ulceration, except in certain indolent cases in elderly people, causes extreme discomfort and pain —in bad cases very severe pain. Photophobia is characteristic of all corneal lesions, and often a marked blepharospasm, leading to a spasmodic entropion of the lower lid, is present. The pain is located to the site of the lesion, but in the more severe cases, in which there is an associated iritic engorgement, there will be in addition much circumorbital and temporal pain, often neuralgic in character. In the early stages the eye, on examination, will be found injected. The injection will be most marked in the region of the limbus, immediately around the cornea, and it will be both superficial and deep—the superficial conjunctival vessels being engorged, and the deeper vessels in the sclera also, these latter giving a deeper homogeneous bluish-red coloration to this region. If the corneal lesion be small, it may be hard to see; it may be rendered more easily visible by instilling into the conjunctival sac a drop of 1 per cent. fluorescein, followed by a few drops of saline, after which the ulcerated area will be stained a greenish-yellow colour. An early corneal ulcer will appear as a small, usually roundish, grey area, its margins fading off gradually into the surrounding clear cornea. Later, or in more severe cases, an increasingly large area of the cornea will be involved, and, in extreme cases, the whole cornea may be affected. The ulceration may take a crescentic shape, the convexity of the ulcer pointing mesially, extending in this direction and burrowing deeper as it grows into the corneal tissue. In some cases cellular exudation makes its appearance in the anterior chamber and is seen as a yellowish layer lying at the bottom of the anterior chamber, having a flat upper border. This layer, known as hypopyon, indicates that the condition is a severe one. In elderly people a rather indolent form of ulceration is sometimes seen; here the situation of the ulceration is marginal, just inside the corneo-scleral junction, and the ulcerative area may be fairly extensive in a radial direction, but does not usually extend centrally.

General Measures.

Certain general considerations should be kept in mind. The fact that a septic process has established itself and is in progress suggests that the patient's resisting powers to infection may be reduced. It is necessary, therefore, not to neglect his state of health, the condition of his bowels, the presence of other foci of sepsis, and so forth.

Local Measures.

The Lacrymal Sac.—As to the eye itself, it is of paramount importance to investigate the lacrymal excretory apparatus. Pressure should be made over the lacrymal sac and the two punctal openings watched carefully for the presence of regurgitation; it may even be well to syringe fluid through into the nose in order to ensure that these passages are patent. If regurgitation from the lacrymal sac is found it is necessary to deal with this at once, as here will be almost certainly the cause of the corneal infection. The best procedure is to excise the sac forthwith. If for some reason this cannot be done, it is possible to seal up the two canaliculi by passing the cautery into them or by tying a suture around them, but this is by no means so satisfactory as the excision of the sac.

Ointments.—Having made sure of the condition of the lacrymal sac, the next thing is to treat the eye itself. The routine basic treatment of a corneal ulcer is the instillation of atropine ointment into the conjunctival sac, and the application of a firm pad and bandage. 1 per cent. atropine ointment should be used, and it is quite a useful practice to incorporate 1 per cent. yellow mercuric oxide ointment with the atropine ointment, the yellow mercuric oxide ointment having a stimulating and antiseptic effect. The ointment should be applied to the eye two or three times in the 24 hours, and just before the ointment is put in the eye should be bathed with warm boric lotion. The best way to do this is with an undine, or if this is not obtainable, to drip the lotion into the conjunctival sac with a sponge. All the intervening time a firm pad and bandage should be kept applied; an eye-shade is useless and its use in these cases is to be deprecated. The bathing of the eye should not be overdone, and in fact excessive irrigation is harmful. In slight cases of corneal ulceration it is perhaps not necessary to confine the patient to bed, but it is well to do so if the case is a severe one or shows signs of progressing.

Heat.—The firm pad and bandage generally tends to relieve the pain to a great extent, but where the pain persists, and especially where the circumorbital pain indicating an associated iritis is present, the use of dry heat over the pad by a hot box or electric apparatus, and the application of leeches to the temple of the affected eye will afford much relief. The usual analgesic drugs, such as aspirin, are in no way contra-indicated.

If the conjunctival sac appears in a septic condition, it may be well to use protargol drops, 5 per cent., twice a day, in addition to the above procedure. In some cases magnesium sulphate, 5 per cent., used as drops, or as a lotion twice a day, appears to give very good results, particularly in the bad ulcer cases associated with a hypopyon.

Intractable Cases.

The majority of corneal ulcer cases will respond to treatment carried out on the above lines. If, however, the ulcer appears to be progressing, it will be well to attack the ulcer itself. This is most easily done by applying pure carbolic acid to the ulcer. The procedure is as follows.

Carbolisation.—A drop of 4 per cent. cocaine is instilled into the eye and the lids are held apart, preferably by a lid speculum. The surface of the ulcer is dried by laying a clean piece of blotting-paper upon it. A small pointed piece of wood—a sharpened match will serve the purpose very well—is dipped into the pure carbolic and is then applied to the ulcer. (The match should be well soaked, but no drop should hang from it.) It is well gently to curette the ulcer before applying the carbolic; usually there is a small amount of débris lying in the centre of the ulcer, and this should be removed first. Carbolisation of a corneal ulcer has the advantage that it is comparatively easy to do and can be repeated at frequent intervals. In bad cases the actual cautery at dull red heat may be applied to the ulcer with advantage.

Paracentesis of the Anterior Chamber.—If the ulcer extends in spite of the cauterisation, and especially if there is a large hypopyon present, as is usual in such cases, the question will arise as to whether paracentesis of the anterior chamber should be performed. This

procedure anticipates the actual perforation of the ulcer itself, and by relieving the tension on the corneal tissue favours resolution. If, in spite of all these measures the ulceration still progresses, all hope of saving good vision in the eye will have gone, and it will become a question of attempting to keep the eye in the head with some sort of vision. In such a state of affairs section of the cornea (Guthrie's or Saemisch's section) should be performed. A fine cataract knife is entered at one side of the cornea and pushed through the anterior chamber and out at the other side of the cornea, and then made to cut out vertically through the whole breadth of the cornea. In a remarkably high percentage of such cases, after this has been done the progress is stayed and the eye slowly quietens down. Should this not happen it will probably be necessary to eviscerate the globe.

Prognosis as to Vision.

If the process of ulceration has only involved the corneal epithelium complete resolution with absolute transparency will result; in the majority of cases of septic ulcer, however, the process will have involved the substantia propra of the cornea. The corneal tissue proper does not regenerate completely and an opaque scar will be the result. It is possible, after the actual ulceration has healed, to modify the opacity of the resulting scar to some extent by the use of such measures as insufflations of powdered calomel, the instillation of dilute yellow oxide of mercury ointment, or dionin drops 5 per cent. Too much, however, must not be expected from these measures. If the corneal scar occupies the centre of the cornea and obstructs the pupil, it may be possible to improve vision by performing an optical iridectomy, which will enlarge the pupil so as to extend under a clear, or relatively clear, portion of the cornea. Tattooing of the corneal scar with Indian ink will improve the appearance considerably and, in slight scars, will actually improve vision by making them more opaque and so preventing them from refracting light irregularly.

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Special Articles.

BRIGHT'S DISEASE.

THE CENTENARY OF THE DISCOVERY.

ON the occasion of the centenary of the discovery of Bright's disease by the great Richard Bright, who was physician to Guy's Hospital from 1820 to 1843, an interesting ceremony of celebration was prepared by the hospital.

The proceedings commenced on Friday, July 8th, at 11 o'clock, when Prof. Ludwig Aschoff, of the University of Freiburg, gave a demonstration of the pathology of Bright's disease; Dr. John Fawcett took the chair in the Anatomy Lecture Theatre.

Disorders of the Kidneys with Symptoms of Bright's Disease.

Prof. Aschoff, disclaiming any intention of discussing all the symptoms in the complex clinical picture denoted by the term Bright's disease, made a classification based upon the cardiac conditions, following here Bright's own example. In distinguishing the cases without hypertrophy from those with it, Prof. Aschoff assumed that acute initial changes in the kidney were not in question, and concluded that the clinical phenomena, which should occupy the central interest, were glomerulo-tubular nephritis and arterio-sclerotic or genuine contracted kidney. In a brief recapitulation of the whole subject he evolved the following scheme:—

(*a*) *The so-called Nephroses.*—Without increase of blood pressure or hypertrophy of the heart. Marked albuminuria and œdema. Abnormal permeability of the cutaneous and renal vessels for albumins and lipoids (lipoid dystrophy of the kidneys), referable to changes of metabolism.

(*b*) *Glomerulo-tubular Nephritis.*—(1) Acute stage. *Acute glomerulitis* and *glomerulo-nephritis.* Acute dilatation of left heart with acute hypertonicity. Acute œdema. Marked albuminuria. Infectious-toxic lesions of cutaneous and glomerular vessels. (2) Subacute stage. *Large mottled and white kidney.* Intermittent œdema. Variable albuminuria. Slight or absent hypertrophy of the heart. (3) Chronic stage. *Secondary contracted kidney.* So-called smooth contracted kidney. Variable albuminuria, especially during a relapse. Repeated, so-called renal œdema. Death most frequently in uræmia.

(*c*) *Arterio-sclerotic Contracted Kidney.*—Begins with hypertonicity. Secondary morphological changes of arterioles of abdominal glands, especially kidneys. (1) Precirrhotic stage. So-called *idiopathic hypertrophy.* Death from apoplexy. (2) Cirrhotic stage. So-called *granular atrophy of kidneys.* Marked hypertrophy of heart. Slight albuminuria. Œdema static. Death from heart failure or cerebral apoplexy as result of athero-sclerosis of small cerebral arterioles.

(*d*) Special or combined renal diseases. (1) *Focal embolic glomerulo-nephritis of* Loehlein with thrombo-endocarditis ulcerosa lenta. Doubtful transition to secondary contracted kidney. Hæmaturia, less albuminuria. Mixed œdema, presumably chiefly cardiac. (2) Arterio-sclerotic contracted kidney with recent arteritis and glomerulitis. So-called *malignant sclerosis* of Fahr. Death from uræmia. (3) Secondary contracted kidney with subsequent sclerosis of arterioles. Death from heart failure, apoplexy, or uræmia.

If we compare this scheme with Bright's introductory remarks to his Selected Reports of Medical Cases of the year 1827 we see that Bright insisted on the separation of all the forms of œdema which can be explained by local heart failure or circulatory disturbances, or by disease of the lungs or liver, from true dropsy, as it is found in lesions of the kidneys. Only the *nephroses* and the *glomerulo-nephritides, together with the resulting secondary contractions of the kidneys,* are to be designated by the term disorders of the kidneys with symptoms of Bright's disease in its strict sense. The arterio-sclerotic contracted kidneys, with their prevalent cardiac œdema, do not belong here. But since Bright himself figures kidneys of this kind and does not always distinguish sharply between the different sorts of œdema, but only considers the coexisting kidney trouble to be essential for his classification, we must include arterio-sclerotic kidneys in our consideration of renal disorders with symptoms of Bright's disease. But we must realise fully that the expression "symptoms of Bright's disease" is more suitable than "Bright's disease of the kidneys," since the latter embraces too many things. Even the term "symptoms of Bright's disease" is quite vague enough, and requires further qualification. It might be well to use this centenary to give a narrower definition to "the symptoms of Bright's disease" and to *limit them to those symptoms that are presented by toxic and inflammatory albuminuria and the so-called renal hydrops.* These symptoms of Bright's disease in the narrower sense are found only with the so-called nephroses (lipoid-dystrophies), the glomerulo-nephritides, and the glomerulo-nephritic contracted kidneys. Since the nephroses are relatively rare, and still form a much-disputed chapter, it follows that *the symptoms of Bright's disease are, and will be, associated for us with the idea of glomerulo-nephritis and the glomerulo-nephritic contracted kidney.*

A Physiological Discourse.

At noon Prof. Lemierre, of the University of Paris, who had taken Prof. Widal's place at very short notice, delivered a discourse on selected cases of Bright's disease in the Physiological Lecture Theatre, when Sir William Hale-White took the chair.

The Bright Oration.[1]

At 1.30 a party of distinguished guests were entertained to luncheon in the Governors' Court Room, among those present being the Earl of Balfour, who presided later in the Physiology Theatre at the delivery of the Bright Memorial Oration by Dr. W. S. Thayer, Emeritus Professor of Medicine of the Johns Hopkins University, Baltimore.

Prof. Thayer first outlined in detail Bright's general education at Exeter and in Edinburgh, including a brief account of his well-known expedition to Iceland with Sir George Steuart Mackenzie. In dealing

[1] This report is an abstract of the full Oration which will appear in the next volume of the Guy's Hospital Reports.

with the early work at Guy's Hospital he made the interesting note that it was through the stimulus of Astley Cooper that Bright early gained his interest in morbid anatomy, while another of his teachers William Babington, interested him in geology. He returned to complete his medical education in Edinburgh and then, after keeping two terms at Peterhouse, Cambridge, went for various periods during 1814, 1815, 1816, and again in 1818 on to the continent, travelling often through scenes of war. He recorded his various experiences in a volume published in the last-named year illustrated with sketches made with his own hand.

This book, said Prof. Thayer, gives one the picture of a young man of six-and-twenty who is capable of observing and describing the customs and life of a people new to him with measure and charity and understanding, seeking out and recognising that which is good, and never allowing a hasty or an unkind criticism to escape his pen; such measure and such understanding were not, said the orator, common at six-and-twenty, but were characteristic of Bright throughout. In 1820 he became assistant physician at Guy's Hospital, and in the same year his scientific accomplishments, proved by his studies in geology and botany, were acknowledged by election to the Fellowship of the Royal Society.

Of Bright's work in the hospital the orator said:

"From the day he entered Guy's Hospital he devoted himself whole-heartedly to the study of morbid phenomena, year after year spending as much as six hours a day at the bedside and in the necropsy room. Occasional notes of cases demonstrated during his visits show how carefully, even at this early period, he observed and noted the recondite; an example is a good description of what, obviously, was an instance of syringomyelia. For seven years he published little or nothing, but never were seven years better spent. On the 13th of August, 1826, Laënnec died, leaving the legacy of his great work with the immortal descriptions of tuberculosis, of pneumonia, of bronchiectasis, of emphysema, the work which laid the foundations of modern physical diagnosis of diseases of the chest. Bright took up the torch and, a twelvemonth later, one hundred years ago, but three years after he had come into his wards, rendered a noble account of his stewardship at Guy's Hospital in the shape of a beautiful quarto volume entitled Reports of Medical Cases Selected with a View of Illustrating the Symptoms and Cure of Disease by a Reference to Morbid Anatomy. This remarkable publication was a careful, laborious collection of observations, clinical and anatomical, made for the most part during the three years of his service as full physician, together with such conclusions as he felt justified in drawing—'an attempt,' says he 'to render the labours of a large hospital more permanently useful by bringing together such facts as seemed to throw light upon each other . . . . To connect accurate and faithful observation after death with symptoms displayed during life must be in some degree to forward the opportunities of our noble art.' He is not trying to lay before his readers a succession of striking novelties; utility is his first object. His work will not 'in theory at least be thoroughly completed until every disease which influences the natural structure, or originates in its derangements, has been connected with the corresponding organic lesion.'"

Prof. Thayer then briefly described what was the accepted knowledge when Bright began his extensive studies.

He mentioned, as characteristic of Bright's thoroughness that, when describing some illustrative cases he made an allusion to the altered structure in a kidney, observed in the post-mortem examination of a patient 12 years previously, and produced the sketch which he had made at the time. A second quarto volume of Reports of Selected Cases soon followed, and some three or four years after the earliest observations were made we find that his work had become the object of world-wide interest and discussion. In 1836, in the first volume of Guy's Hospital Reports, he gives a more or less complete summary of his work, and Prof. Thayer enumerated the headings of many of the remarkable records, noting that Bright had actually recounted many instances of Jacksonian epilepsy, had recognised the significance of the syndrome, and had described it repeatedly and with great clearness. Bright also described with singular accuracy two instances of amnestic aphasia with central lesions. The second quarto appeared but seven years after Bright had acquired the opportunities offered by wards of his own. The quiet, modest young man, who had schooled himself from the beginning to observe, to note, to picture, to record all that which he could grasp of nature and her works, had been true to his promise; in his medical inquiries he had shown the same keen, sure power of observation, the same industry, the same mental poise, the same sound, sane judgment that he had manifested in his earlier writings. At the age of two-and-forty he had seen and comprehended and recorded and illustrated his experiences in communications which stand out among the great contributions to medicine. In 1832, following the publication of his second quarto, Bright was promoted from Licentiate to the full Fellowship in the Royal College of Physicians.

Prof. Thayer next reviewed the contents of the first volume of the Elements of the Practice of Medicine, written by Richard Bright in association with Thomas Addison. The second volume was never published and Dr. Thayer alluded in appropriate terms of comic contempt to the uninformed nature of the reviews which the book received. Bright, he said, examined that which was before him with an objectivity which amounted almost to genius. That which he observed he *saw*, he remembered, he appreciated; often he recorded. To him who knows how to observe, who has that which we call "insight," to him Truth reveals much that she hides from the many. A disinterested lover of truth, he was oblivious of questions of priority or of personal fame, going out of his way to give credit to his colleagues and to his associates for work done at his suggestion and under his direction. He lost nothing by his generosity. For generosity fame has a sharp and comprehending eye.

An amusing interlude in the oration was furnished here by a description of the activities of one Richard Bright, M.R.C.S., the author of a popular treatise on the "Diseases of Females: Every Woman's Book or Female's Physician." It is hard to believe that this work, which obviously was not scientific and was written mainly in the interests of its author, should have been actually ascribed for nearly 50 years, in one important medical bibliography at least, to the great Richard Bright whose work is not alluded to in the book. Richard Bright paid no attention to the ungenerous comments made upon himself owing to the confusion of personalities, and he treated with equal contempt certain quack advertisements which appeared to allude to his successes in an unprofessional way, "though THE LANCET made fervid protests."

Of Bright's prescience in forestalling at Guy's Hospital what is now the accepted method of conducting medical research—namely, by coöperation and team work—the orator said:—

"Bright had enjoyed the privilege of his position at Guy's for nearly 20 years. He had made the most of his opportunities and had observed keenly and recorded accurately and conscientiously that which he had observed. That 'chastened power' of generalisation and the 'cautious habit of reasoning upon facts' which he had urged upon his students had enabled him greatly to enrich medical literature. He had become an international figure and one of the leading consultants in London. In 1843, at the early age of four-and-fifty, he resigned the hospital positions of which he had made such good use. But the last use that he made of his service was notable. In the spring of 1842 he obtained the permission of the authorities of Guy's to set aside two clinical wards, 42 beds in all, for a period of six months, for the intensive study of renal disease; in his own words 'to examine, as far as it was possible, the changes which accompanied the secretion of albuminous urine in the various functions and secretions of the body; whilst at the same time we registered the various circumstances connected with the origin, progress, and treatment of the disease;—a disease than which there is certainly none which offers a more extended field for well-directed observation.' This experiment, which Bright regards as the first yet made in England 'to turn the ample resources of an hospital to the investigation of a particular disease, by bringing the patients labouring under it into one ward, properly arranged for observation,' was wisely conceived and well executed. Between the two wards was a consulting and registration room with a communicating laboratory—what we should call a 'clinical unit.' The results were published in the Hospital Reports for 1843 in the names of his chief associates, Barlow and Rees, with a short prefatory note by Bright. The communication is a fitting climax to Bright's labours on renal disease, and marks in striking manner the progress which clinical medicine had made in his day; detailed clinical histories; thorough and accurately recorded physical examinations; careful necropsies; chemical studies of the blood and fluids by Rees, who sets forth the hydræmia; the existence in the blood of one of the ingredients of the urine; its like presence in milk and fluids effused in various cavities; the deficiency in the urine of one or more of its natural ingredients, the hyposthenuria, the albuminuria.

"But what is yet more striking and quite characteristic is that these studies, planned, inspired and directed by Bright, should have been published in the name of his associates who had done the detailed work—that his name should have appeared only in the preface, while he

scrupulously mentions the names of Barlow's internes and Rees' laboratory assistant."

With the following eloquent words the oration closed :—

"One cannot look back on this life of unusual achievement without a sense of warm admiration for the man. Happy in his birth and in the surroundings and conditions of his early life, cultivated by travel and society, an artist, a linguist, a man of scholarly tastes, Bright made full use of his opportunities. Modest, simple, high-minded, mellowed by the broadening and softening influences of the experience of a practising physician, Bright appears to have been in the true sense of the word a gentleman, possessed of the μεγαλοψυχία of Aristotle, one who moved among men, high and low, with courtesy and sympathy and charity. His equanimity, the sober restraint of his language, his studied avoidance of intemperate or provocative words or acts, excite one's admiration. He seems to have had a rather unusually winning simplicity and purity of character, to which his obituary notices bore touching testimony. He was a great observer. He was not given to hasty speculation. His mind seemed never to wander from nor to anticipate the phenomena on which his attention was fixed . . . . He was not brilliant. He made at first no great impression on those about him. He was a simple, straightforward, kindly man, who met life with equanimity and charity and tolerance; a conscientious, painstaking physician; a patient, careful, scrupulous, time-taking, thoughtful student; and in the end he stood out as one of the great figures in the history of medicine."

THE BRIGHT MEMORIAL MEDALS.

Dr. A. F. Hurst proposed the vote of thanks to Prof. Thayer for his address and, this having been recorded unanimously, he presented to Lord Balfour the following for the reception of the Bright Memorial Medal: Prof. Thayer, Prof. Aschoff, and Sir John Rose Bradford; Prof. Lemierre, representing Prof. Widal, was also presented. To each of the recipients in order Lord Balfour, in presenting the medal, made a characteristically happy speech. He thanked Prof. Thayer warmly for his presentation of a great man of science who was also a beautiful character, and recalled the fact that when he was Prime Minister it had fallen to him to recommend Sir William Osler for the Regius Professorship at Oxford, and so, in some small sense, to have been connected with Prof. Thayer's succession to Osler's position at the Johns Hopkins University. He alluded in happy phrases to Prof. Aschoff's eminence as a pathologist, warmly thanked Prof. Lemierre for coming at so short a notice to give them the advantage of hearing French contemporary wisdom, and to the President of the College of Physicians he expressed the debt of all present for his fine scientific work on various aspects of renal disease.

Dr. Hurst then stated that when the celebration of the centenary of Richard Bright's work was first contemplated at the hospital where his work had been done, the thoughts of Guy's men had turned naturally to their great fellow-student, the late Prof. Starling. Death had unfortunately intervened, but he asked Lord Balfour to entrust him, on behalf of Mrs. Starling, with the Bright Memorial Medal which the School had decided to award to her husband prior to his death.

A collection of Bright relics was on view in the Gordon Museum, while the laboratories in the Medical School were open for inspection.

THE MINISTER OF HEALTH AT BIRMINGHAM.—On July 8th Mr. Neville Chamberlain addressed the members of the College of Nursing in conference at Birmingham, incidentally remarking that it was the fifth occasion in as many weeks that he had found himself speaking on nursing matters. He took as his subject: "The place of education in the provision of a proper nursing service," but in reply to questions held out no hope that the education authorities were likely at present to be able to assist the profession with grants. He had been giving time, he said, to the consideration of a project for the establishment of a post-graduate school of medicine in London, for the benefit of practitioners from all parts of the Empire. For this there seemed an undoubted demand.

THE LISTER MEDALLIST.

PROF. EISELSBERG'S ADDRESS.

EVERY three years a Lister Medal is awarded in recognition of distinguished contributions to surgery. The award is made by a committee representing the Royal Society, the Royal Colleges of Surgeons of England, Scotland, and Ireland, and the Universities of Edinburgh and Glasgow, and this year the recipient is Prof. Anton Freiherr von Eiselsberg, of Vienna. On July 7th, after a reception, the presentation was made by Sir Berkeley Moynihan at the Royal College of Surgeons of England, of which Prof. Eiselsberg became honorary Fellow in 1913.

In an address delivered in the theatre of the College to a distinguished audience, Prof. Eiselsberg said :—

It is a special pleasure for me to see among my friends here Sir William Watson Cheyne who three years ago was the first recipient of the Lister Medal. I feel that my contribution to science has not been worthy of so great an honour and I presume that this distinction is intended to do honour to my great master Billroth. It was my privilege to be his assistant for nearly ten years, and throughout my life he has been my ideal in private as well as in professional life. Billroth worked on the problem which Lister so ably solved; his theoretical conclusions differed somewhat from those of Lister, so that he may be excused from not having adopted immediately Lister's new methods. Nevertheless, from the very beginning he had the greatest respect for the great surgical reformer and sent some of his assistants to Lister's clinic to study the new method. I am to this day grateful to Billroth for his advice to spend one of my vacation periods on a visit to King's College Hospital, for it will always be one of the most prominent impressions of my career to have personally met and seen at work the man who is recognised as one of the greatest benefactors of the world.

Surgeons of 70 and more years ago were not less clever than to-day, but they had no anæsthetics and thought primarily of technical perfection and speed in operation. We hear of the famous French surgeon, Baron Larrey, who after the battle of Eylau did, in one day, more than 200 amputations of shattered limbs, the amputation of each requiring on the average less than one minute. At that time it was necessary for all surgeons to be able to acquire this facility and my teacher, Billroth, became more clever and speedy in operating than any one to-day could ever hope to be. He could complete the disarticulation of the arm from the shoulder in less than 30 seconds. But the speed of the operation was not sufficient to guarantee that the wound would heal. Nussbaum, until 1890 director of the Munich Surgical Clinic, deplored the fact that 80 per cent. of his cases developed hospital gangrene after operation. At the beginning of the nineteenth century in the Hôtel-Dieu, at Paris, 80 per cent. of all patients with amputations of the femur died from wound infection, and between 1862–72, after 671 amputations performed in different hospitals, more than one-third of the patients died of different infections. The change that has come over surgeons to-day compels us to think highly of Lister's work.

The Revolution in Surgery.

What made Lister the hero of the scientific world was his systematic and careful investigations on living animals and the exact observations in his clinic, combined with laboratory work in the new science of bacteriology. Like John Hunter he noticed the great contrast between the healing of subcutaneous and open fractures and he bore it constantly in mind. The danger of compound fractures was acutely felt even in the great clinics where the best surgeons were working, and yet Lister, working in probably the most unhygienic hospital of all, that of Glasgow, obtained the marvellous result that out of 12 compound

fractures of the lower extremity he was able to heal nine. To-day practically nothing remains of his original technique, but the principle upon which this technique was based still holds good. The reason why he did not find that antiseptics would cure all infection was that, though far in advance of his time, he could not know the power of resistance inherent in the human body nor foresee Robert Koch's great work on bacteriology. The human body differs completely from the artificial culture medium in the Petri dish.

The Need for Caution.

Since infection of wounds has been prevented, one disease after the other has been treated by surgery. Every year has brought us new operations, and there have been times when the enthusiasm of the surgeon has prompted him to attempt too much. We have learned, for instance, that resection of tuberculous joints in children should not be performed, or at least should only be performed so that the epiphyseal line is not injured and the growth of the limb impaired. We all know the unhappy consequences of complete extirpation of the thyroid gland, and if we are now able to control them it is altogether due to experimentation on animals. By such means it was proved that the loss of the gland may be mitigated by oral feeding, subcutaneous injection of the extract, or under certain conditions by transplantation. Now, since we know that before a man's blood can be transfused into another the blood should be grouped, so we must, before making such a transplantation, apply the necessary tests. And if the famous experiment of Alexis Carrel, who successfully transplanted a kidney or an extremity from one animal to another, should ever be tried on man, the same test must be made. From the clinic of my friend and pupil, Clairmont, at Zürich, the following has been reported :—

A patient lost a large piece of skin by an accident. The wound had to be covered by skin-flaps. The "blood-number" of the patient was No. II. Transplantation was performed from three donors, I., II., and IV. All skin-flaps from No. II. healed, some healed from No. IV., but none from No. I.

Lister's goal was to remove danger from open fractures. He attained this object, but he went further. He cut down on a subcutaneous fracture which could not be reduced by manipulation—the patella—and sutured it successfully. Since the advent of Rontgen rays surgeons have sutured subcutaneous fractures more and more frequently. In my large accident ward at Vienna we treat fractures, particularly of the lower extremity, only occasionally by open suture and more often by Codivilla Steinmann nail or Schönmann-Schmerz tongs with extension. The point of this tong is introduced through the periosteum into the bone. Before the days of Lister this procedure was a dangerous one, as is evident by the results obtained from the Malgaigne clamp for patella fractures 100 years ago.

My own opinion is that some surgeons use operative methods for the treatment of fractures, and in other cases, far too frequently. Every step forward in surgery may cost life, therefore before any such step is taken one should endeavour to check results by anatomical research, physiological considerations, and by animal experiments in order that this danger may be reduced to a minimum. Especially when the operation is performed on a case, not in itself dangerous, which could perhaps be treated in another way, it is always necessary to ask "would I perform this operation on my parents, my wife, my children?" Are we allowed to experiment on living man? The problem presents itself also in regard to the too many sample drugs which every doctor receives daily by post. Should these be tried on his patients?

Both Lister and Billroth published unsuccessful as well as successful cases in order that other surgeons might profit by their experience. It is a pity that all surgeons do not do likewise. Lister said, "the best thing that can be done by a man for the propagation of the truth is the correction of the faults previously committed by him." I wish that all scientists and all politicians, and in fact all classes of men would follow this golden rule.

Discriminating Surgery.

The good results obtained by Lister led to operations which are not perhaps necessary or entirely justifiable. I myself seldom perform a gastropexy nor a nephropexy. I personally cannot believe that in the majority of cases this constitutional anomaly can be healed by a mechanical operation. The less dangerous gastric operations become, the more frequently exploratory laparotomy is performed; and when no pathological symptom is found some surgeons feel that something must be done with the stomach and decide to do a gastro-enterostomy. Such procedure prejudices the beneficial results of an operation which should be productive of the best results when undoubtedly indicated. The cure may be worse than the disease for postoperative jejunal ulcers are often the sequel. Indeed, one of my pupils, Pribram, wrote a paper called Gastro-enterostomy a Disease. The surgical removal of such an ulcer is one of the most difficult operations, and even then does not with certainty prevent the appearance of a new ulcer. As a result of its indiscriminate use, gastro-enterostomy, which at one time was the most popular of gastric operations, has in recent years lost much of its popularity.

In the last 25 years we performed in my clinic 1681 operations for ulcer :—

			Per cent.
Resection ..	1102, with 59 cases of death	=	5
Gastro-enterostomy	541, „ 30 „ „ „	=	5
Jejunostomy	39, „ 13 „ „ „	=	30

The high mortality after jejunostomy is accounted for by that fact that jejunostomy is only performed in cases where neither resection nor gastro-enterostomy is possible.

Social Standing of the Surgeon.

The progress of surgery last century completely changed the standing of the surgeon. One hundred years ago the surgeon was not much more than an itinerant barber; the physician, on the other hand, with his wig, staff in hand, attended the patients, made the diagnosis, and advised the operation, which was performed by this barber who also did the blood letting and rendered other menial service. If the operation was successful it was due to the foresight of the physician, but if it went wrong it was owing to the clumsiness of the barber. During the last 60 years the surgeon has had the same fundamental training as the physician, and gradually he has risen to the same social level; throughout his career Lister was very much concerned about raising the surgeon's position. Concomitantly with the rise of status of the surgeon came the rise in that of the nursing organisation. It is not a matter of chance that the teaching of nurses in England is of the highest order; it is due to early inculcation of the feeling of responsibility.

Antiseptics.

The great majority of operative wounds now heal without any complication. However, in some cases —all surgeons know that—complications will appear. The aseptic method is not sufficient, especially where it is necessary to operate in infected surroundings. The great war reawakened by necessity the interest in old as well as in new antiseptics, and the old antiseptic treatment of Lister was new-born.

A doctor who was completely misunderstood by his colleagues, an assistant in the gynæcological clinic in Vienna, Ignaz Philipp Semmelweis, recognised in 1850 that puerperal sepsis was due to unhygienic conditions caused by the failure of doctors and students to clean their hands thoroughly before examining their patients. He proposed washing in calcium chloride solution, but unfortunately his colleagues would not support him. Only many years after his death the truth of his teaching was recognised. There has often been a discussion whether Lister or Semmelweis was

the father of the modern treatment of wounds. This discussion is superfluous. Let us be happy that two men independently had this epoch-making idea. The principles put foward by Semmelweis were not accepted by his contemporaries, but those advanced by Lister gave a tremendous impetus to the study of antisepsis. It was only about 1888, more than 20 years after his own discovery, that Lister heard of the efforts of Semmelweis and was full of admiration for him.

An antiseptic which kills bacteria without injury to the body-tissue does not exist. But the study of and experiment with serum have shown great therapeutic possibilities. Perhaps some day we shall have a polyvalent serum, which can protect us against all pathogenic organisms. This would render all our present methods of asepsis unnecessary and would simplify to the last degree all our operative precaution. I will no longer dwell on such dreams.

The Problem of Cancer.—Euthanasia.

In my clinic there have been made in the last 25 years 376 resections of cancer of the stomach, and in 70 of these cases the patients died after operation, though I must state that this has sometimes been very radical. We have performed gastro-enterostomy in 417 cases with 58 deaths after operation, 95 jejunostomies with 42 deaths, and 294 exploratory laparotomies with 28 deaths. All these cases show us that patients consult the physician too late. The mortality of jejunostomy, which is the quickest and easiest operation, in my clinic is due to the fact that these operations are only done when obstruction occurs, making it inadvisable to perform radical resection or gastro-enterostomy. As the above will show, out of 1182 cases of cancer of the stomach which have been operated upon, resection could be done in only 376. These statistics indicate that since we have no better method at the present time our greatest hope is that we shall be able to teach the young physicians the necessity of the early diagnosis of cancer. When one considers that 18 per cent. of all cases died immediately after the radical operation, and 58 per cent. of the surviving 82 per cent. died from recurrence within the first year, it is absolutely clear that a new remedy is necessary to give us mastery over the disease. A cancer early recognised and early cut out is often radically healed.

Here comes the question: Shall I tell the patient that he is suffering from cancer? I think we cannot give a general rule. I personally follow the example given by Billroth, not to tell the patient directly that he is suffering from a cancer; but I never fail to tell the facts to some responsible member of his family.

In special cases it is necessary, of course, to tell the patient, not only that he requires an operation, but also the extent of the operation, and if the patient or his family refuse the operation it must not be performed, however definitely indicated. To-day, however, we have scarcely to mention that an operation is necessary, for patients demand them even against our advice. Particularly is this true in *cosmetic* operations.

Another question interesting to the medical man is whether under any circumstances he is justified in shortening the life of a patient suffering from an incurable and perhaps agonising illness. Setting aside all religious and worldly considerations and looking at the problem from an ethical standpoint alone, I may at once say that a doctor would never be justified in doing so. Diagnosis is not yet sufficiently exact.

The Story of Progress.

It is the experience of all surgeons engaged in abdominal surgery that sometimes a case presents itself which on exploratory laparotomy is inoperable and appears to be incurable. The operation wound is closed, the worst prognosis is given, and the patient gets well! What is to-day an incurable disease may to-morrow be curable. Galen long ago spoke of three especially painful and incurable diseases: neuralgia of the trigeminus, ulcer of the stomach, and stone of the bladder. All these are now curable.

Generations come and go. Only the work performed remains. Before medical science had reached its present high level an immense amount of plodding research had to be gone through, untold nights spent in watchful medication, numberless sacrifices of pleasure and indulgence made. Of all this how little remains alive in the memory of posterity! The world knows nothing of the silent performances of duty which the working of our everyday life demands by day and night. The general country doctor, the medical practitioner in the town, have one and all their special sphere of action. They go through life and the noisy world does not heed them. But all these thousands of springs feed the life of the one man, who is destined to be the leader of a new era.

PRESENTATION OF THE MEDAL.

Sir Berkeley Moynihan, in presenting the Lister Medal, referred to the Vienna Surgical School as "the intellectual home of many of us before the war." Prof. Eiselsberg would be the first to feel glad that in paying a tribute to himself they were also paying tribute to Billroth. Something of the spirit of a teacher passed on from generation to generation. Billroth had trained eight occupants of chairs of surgery in Europe, and so far Prof. Eiselsberg had himself trained three; Sir Berkeley Moynihan hoped that in the years to come he would equal the record of his master. But it was not only as a distinguished contributor to surgical science and as a teacher that Prof. Eiselsberg deserved the honour being paid to him; he had done something more; he had raised the standard of conduct in his school and elsewhere. Not only a great practitioner and a great teacher, he was also a great example to all who practised the art of surgery, and it was fitting to associate his name with that of Lister by placing it upon the roll of those to whom the Medal had been awarded.

BRITISH EMPIRE CANCER CAMPAIGN.

ANNUAL REPORT.

THE British Empire Cancer Campaign is now well in its stride. The imposing format of its fourth annual report, presented at a meeting held at the House of Lords on July 11th, is more than justified by the wide range of the activities recorded. The objects of the campaign are clearly defined. Apart from the ultimate ideal of discovering the cause of cancer and the means of curing or preventing it, the secondary aims to which efforts are being directed are—

(1) The maintenance of existing cancer research centres at their maximum efficiency by financial assistance.

(2) The encouragement and establishment of new cancer research centres in association with universities and medical schools and the development of new schemes of cancer research.

(3) The financial support of individual cancer research workers under approved conditions.

(4) The coördination of cancer research generally.

The total amount of money expended on research, including commitments, now exceeds £125,000.

The Plan of Campaign.

Special centres of research have already been established in connexion with the Universities of Leeds and Birmingham, and negotiations for the granting of subsidies to corresponding schemes in Manchester and Liverpool are being carried on. Affiliation of the newly formed National Cancer Campaign for Ireland and of the independent movement started in the University of Sydney to the British Empire Campaign has been arranged. The publication monthly of the *Cancer Review*, wherein the enormous world literature relating

to cancer is abstracted, also serves to enable workers in different countries to keep in touch with progress made and to save their time, since they need refer to the originals only of those papers which are directly relevant to their own work.

The detailed work of organisation of the Campaign is largely entrusted to seven committees—notably the Scientific Advisory, Executive, Preliminary Inquiry, Intelligence, Management of the Journal, Radiology, and Finance Committees. In submitting the record of the year's progress the Council explains that these committees assume no scientific responsibility for statements of fact and opinion contained in the reports, compiled by the institutions and individuals in receipt of grants, which form the bulk of the annual report. The institutions subsidised include the Cancer Hospital Research Institute, the Cancer Research Departments at the Middlesex Hospital, St. Bartholomew's Hospital, St. Mark's Hospital and the Christie Hospital, Manchester, the Medical Research Council Radon Centre at the Middlesex Hospital, the London Association of the Medical Women's Federation, the Tropical Disease Prevention Association, the Westminster Hospital, the Coombe Lying-in Hospital (Dublin), and the Birmingham University Cancer Research Centre. Other grants have been made in connexion with radium research and whole- or part-time grants have been made to 12 individual workers. Many of the observations here recorded have been published in full in our columns, notably those of Dr. T. Lumsden, Prof. S. Russ and Miss G. Scott, Dr. J. C. Mottram and Dr. R. D. McKenzie, and Mr. C. F. W. Illingworth; we select for notice here some of the hitherto unpublished indications of the progress of work.

Tumour Therapy: Colloidal Lead.

As the outcome of a visit paid to Liverpool in October, 1926, by six delegates from the Campaign, it was decided that there was a good prima facie case for the continuance and extension of the work initiated there by Prof. Blair Bell on lead in the treatment of cancer. Arrangements are now in train for assistance to be given to the Liverpool organisation in raising further funds for their researches when this becomes necessary, and a grant has been made to St. Bartholomew's Hospital Medical College to enable further independent researches to be carried out on similar lines; the treatment is also being studied at the Christie Hospital in Manchester.

At the Cancer Hospital Research Institute, in autopsies on eight cancer patients who died during treatment by colloidal lead preparations no evidence was found suggesting any destructive change in the cancerous tissue or any arrest of the process, but some normal vital organs had suffered damage. The kidneys always showed extensive tubular degeneration, the liver commonly showed focal necrosis with advanced fatty change; in some cases cerebral œdema and thrombosis of the vessels of kidney and liver were observed. These observations and the results of lead treatment will doubtless be published in due course.

In Birmingham an inquiry, chemical, experimental, and clinical, into the value of colloidal lead compounds in the treatment of cancer is being pursued. The material received for testing proved to be too toxic for safe use; Mr. Saunders, M.Sc., a research chemist, was appointed to assist in the work and is preparing colloidal compounds of lead which are less toxic and may prove more stable. Clinical work, suspended until a satisfactory form of the drug should be discovered, is being recommenced.

Various alleged remedies, such as substances containing tartar emetic and violet extract, have been tested out at the Middlesex Hospital with negative results as far as specific action on tumour growths is concerned; some of these possessed a powerful local caustic effect. At present a number of chemical substances, including different preparations of lead, are being tested for toxicity and curative properties.

Rous Chicken Sarcoma.

Much work has been stimulated by the researches of Gye and Barnard on the Rous sarcoma. At the Middlesex Hospital Dr. S. L. Baker has confirmed Gye's experimental facts in that an activating effect has been obtained from broth cultures of the mammalian tumour (Jensen's rat sarcoma); it has not been possible to obtain activation with more remote subcultures from such broth. This research, while supporting much of the experimental work of Gye, and particularly that part played by accessory factors, has not afforded any conclusive evidence that the activating agent obtained from the mammalian tumour is a living virus. Workers at the Cancer Hospital say that such evidence as they have does not support the virus theory. Extending the work done by him jointly with Dr. McKenzie, Mr. Illingworth with Dr. Alexander found that neither of the factors postulated by Gye was able to withstand exposure to ultra-violet rays.

Workers at the Middlesex Hospital, testing quantitatively the lethal effect of ultra-violet light on the infective agent, found that the Rous agent is about five times as resistant as ordinary bacteria. The discovery at this hospital that the addition of a ferment (trypsin) and also the alteration of hydrogen-ion concentration has a marked effect on the virulence of the sarcoma filtrate is regarded as a most important development, which may have a wide application to the pathology of tumours. It is possible by adjusting these factors either greatly to increase or completely to inhibit the development of the fowl sarcoma.

Sero-diagnosis of Cancer.

Prof. E. C. Dodds and Mr. W. Lawson find that the Interferometer method is entirely unsatisfactory as a method of diagnosing carcinoma. At Cambridge Dr. G. S. Haynes has not obtained uniform results with this apparatus—in some cases striking success having been achieved, in others a complete lack of correlation. The possibility of the development of some serological test for cancer of the bowel has been one of the principal lines of investigation at St. Mark's Hospital. At Westminster Hospital experiments aiming at the evolution of a complement-fixation test for cancer were abandoned only after considerable trial; attempts to confirm Shaw-Mackenzie's test led to the conclusion that since a positive result can so often be obtained in conditions other than cancer, this test is valueless as a specific reaction for malignant disease. Attempts are being made by Mr. F. C. Pybus at Newcastle to use the method of complement fixation among others in the further investigation of the possibility of producing an immune serum against malignant cells.

Radiological Investigations.

The dosage of X rays or radium which is necessary to prevent the growth of tumours is one of the subjects of experimental study at the Middlesex Hospital, also the reaction to irradiation of the blood and of normal tissues surrounding the growth, and the nature of the immunity produced by inoculation of small quantities of X rayed tumour. A new installation for the production of X rays of short wave length will, when preliminary physical measurements and animal experiments have been undertaken, be used for research into the changes produced by X rays in the function and structure of both normal and cancerous tissues. At the Cancer Hospital complete blood counts made in 222 cases of malignant disease under deep X ray treatment revealed no striking abnormality due to the radiations. Similar negative results are reported from the Coombe Lying-in Hospital, Dublin. At the Radiological Cancer Research Department at St. Bartholomew's Hospital, 59 patients were treated during 1926, 49 in 1925. The tentative conclusions drawn from this material as to the early results of deep X ray therapy are that there is a considerable difference in the response of malignant disease in different regions to X ray treatment. Whereas in malignant disease of the uterus the response is decidedly encouraging, in the breast group it is only slightly less so, while œsophageal and rectal cases give unsatisfactory results. In the upper air passage group it is noteworthy that while of 37 cases treated in the two years 29 were microscopically squamous-celled carcinoma, of the six cases reported free from signs of the disease only one was a squamous carcinoma. From Birmingham a corresponding group difference is recorded in connexion with radium, mouth cancer responding well and rectal cases badly to treatment.

The London Association of the Medical Women's Federation report that 117 cases of uterine cancer treated by radium have been given a dose of approximately 7000 m.e.h. within three weeks. No mortality was directly due to the treatment. Many of the cases were very septic before treatment and in eight there was pyometra; with the preparatory technique now used the treatment is only rarely associated with rise of temperature. Great benefit is said to have resulted even to quite hopeless cases.

Dr. Malcolm Donaldson describes the method whereby a cinematographic study of the behaviour of embryonic cells and of cells from malignant tissues grown in vitro has been prepared by Dr. R. G. Canti. This apparatus will be used to study the laws governing the disappearance of malignant growth under the influence of beta and gamma radiation; the effect of beta radiation on the cells is markedly to inhibit the cell movements. On the clinical side Dr. Donaldson reports that 50 mg. of radium element used over a long period has been the technique employed by him; he

believes that in the future even more prolonged doses will be used, especially in those tumours, such as carcinoma of the vulva, where the resistance to irradiation seems to be very great.

Conclusion.

The Council may justly claim that the impetus given to research work into the causation and treatment of cancer continues to gather weight. More and more workers are coming forward, and the results already recorded are being subjected to searching criticism. In certain directions observations are being extended and amplified in laboratories other than those in which they originated. This careful following up of clues or hopeful suggestions involves considerable expense. The funds are being administered with the utmost economy consistent with exploring every possible avenue of approach to the cancer problem, but the expenses are necessarily heavy. The Council work on the principle that no claim to have discovered anything important that may have a bearing on the cure or prevention of cancer is to be turned down without careful investigation; that no appeal for assistance is refused without consideration by those most competent to judge of the possible value of the work contemplated, and that support is given to any research that seems likely to have a bearing on cancer. At the same time money is not wasted in the subsidy of researches which have already been proved useless, and undue overlapping of allied investigations is discouraged unless cumulative evidence on any point is desired. For these reasons, being confident that the Fund is distributing the money at its disposal in a wise manner, we cordially support its appeal for further munition for the active prosecution of this greatest of all wars.

MEDICINE AND THE LAW.

Professional Secrecy and Venereal Disease Clinics.

IN the discussion which followed the delivery of Lord Riddell's address on "The Law and Ethics of Medical Confidences" before the Medico-Legal Society on June 23rd, mention was made of the special obligation of secrecy imposed by regulations under the Public Health Acts upon all concerned in the conduct of venereal disease clinics. This special obligation is to be found in Article II. of the Public Health (Venereal Diseases) Regulations of July 12th, 1916. After directing county councils and county borough councils to prepare and submit schemes for venereal disease treatment at local hospitals and other institutions, and for the supply of salvarsan and other remedies to medical practitioners, Article II. continues: "All information obtained in regard to any person treated under a scheme approved in pursuance of this Article shall be regarded as confidential." It might be possible to suggest—as is suggested by Lord Riddell in a letter published in another column—that this special statutory duty of secrecy would override the judicial power to compel a medical witness to disclose confidential matters affecting his patient. On the other hand, the wording of the article is drafted rather as a general instruction than as an absolute prohibition of disclosure; no penal consequences are laid down for violation of this particular regulation or any other of this set of regulations. It is as though the Local Government Board, when issuing its administrative orders in 1916, desired to establish the essential atmosphere of confidence, but did not contemplate the necessity of penal enforcement. It is unlikely that a judge would allow a medical witness to rely upon Article II. as imposing a statutory duty of silence in the witness-box. Indeed, there has already been a judicial ruling upon the point. In the divorce case of Garner *v.* Garner (reported in the *Times* of Jan. 14th, 1920) a medical witness drew the judge's attention to this passage in the Venereal Diseases Regulations, but the judge ruled that the witness was nevertheless bound in law to answer the questions addressed to him. This case was, however, peculiar in that the doctor was called to give evidence on behalf of the patient and at her own request. Professional secrecy being a one-sided duty owed by doctor to patient, the patient can at any time release the doctor from the duty. The relationship between solicitor and client provides a parallel here. The instructions given by client to solicitor are absolutely privileged; no court can compel the solicitor to disclose a single word of them. Yet if a litigant is challenged upon any matter which he can establish by the evidence of those instructions (for example, proof that he was making a particular claim at an early stage in the proceedings), the solicitor might be put into the witness-box to prove the point. The obligation of professional secrecy can be waived if disclosure is more advantageous to the client than secrecy. The lesson of Garner *v.* Garner, therefore, is that the duty of non-disclosure under the Venereal Diseases Regulations is not absolute; the situation is still governed by the old ideals of professional tradition. The position remains that the doctor is denied in a court of law the complete professional privilege which is allowed to the solicitor, but that he must do his best upon a proper occasion—by protest, appeal to the judge or any other legitimate means—to claim the utmost possible degree of privilege for the communications which have passed between his patient and himself. Courts of law might be reminded that the Royal Commission on Venereal Diseases recommended that treatment should be so organised that persons suffering from these diseases should not be deterred from taking advantage of the facilities provided. The Local Government Board circular which accompanied the issue of the regulations in 1916 rightly stated that it was essential for the success of any measures designed to deal with venereal diseases that patients should be fully assured as to the secrecy of the arrangements. Each patient attending for diagnosis or treatment, observed the memorandum of the Board's medical officer, should be assured that, though his home address will be kept confidentially for reference, it will never be communicated to others. Lord Trevethin's Committee of Inquiry into the Prevention of Venereal Disease in the Civil Community reported in 1923 that the present principle is, by maintaining secrecy, to encourage sufferers to come to treatment and to continue treatment, "and we think that in the present state of public opinion any system of general compulsory notification of venereal disease would tend to concealment and would prove a backward step."

The mention of compulsory notification leads to another reflection. If venereal diseases became compulsorily notifiable, an immense breach would have been deliberately made in the rampart of professional secrecy. The step would be so serious that it may confidently be assumed that the Ministry of Health would not make it by way of departmental regulations under the Public Health Acts, but would obtain the express direction of Parliament. And at this point it must not be forgotten that already Parliament has made venereal diseases notifiable to a limited extent locally. The Bradford Corporation Act of 1925 (15 & 16 Geo. 5, cxxi. s. 68) gave five years' trial to a clause making venereal disease an infectious disease within the Infectious Disease (Notification) Act of 1889 in the following circumstances—(*a*) in the case of infant patients under 2 years of age, and (*b*) in the case of a patient (not being a child) who, after being informed by any medical practitioner attending on or called in to visit him, or by the medical officer, that further treatment is necessary in order to effect a cure of such disease, refuses or neglects to undergo such further treatment. This provision was an attempt to deal with the "defaulting" patient, for whose "following-up" local arrangements (by using the services of nurses, almoners and others) have been devised with varying degrees of success. If legal proceedings

have to be taken under the Bradford Corporation Act, the confidence of the venereal disease patient is violated and the professional tradition is impaired afresh. It should perhaps be noted that the obligation of secrecy is not confined to the medical practitioner alone. It extends to, and is honourably accepted by, others—students, nurses, and the officials of local authorities. The organisation of venereal disease clinics widened the obligation of non-disclosure; this circumstance in itself might justify and explain the reminder in Article II, of the Regulations of 1916.

Probate Action by the London Hospital.

The governors of the London Hospital had lately to bring a probate action in circumstances in which they got no profit for themselves but were (in the language of the President of the Probate and Divorce Court) performing a public duty. A lady died on April 24th, 1925, aged 42, leaving about £2200. By a will executed in 1914 she had made the governors of the London Hospital her residuary legatees, but this will could not be found. Mention was made during the action of three other wills alleged to have been subsequently made by her—one of Oct. 17th, 1921, another of April 16th, 1925, and a third of April 21st, 1925. Under this last alleged will, purporting to have been made three days before her death, a Mr. Martin Harcourt Waters, residing at Salisbury and engaged to some extent in estate management, was appointed sole executor. Mr. Waters had been well acquainted with the testatrix for many years, certainly from 1921 to 1925; on her death he proceeded to obtain probate of the alleged final will of April 21st, 1925. But, according to the findings of the President, the signatures of the witnesses to the document were not written by the persons whose names appeared thereon; they strongly resembled the writing in the body of the document. The signature of the alleged testatrix might have been hers or not; if not it was a carefully prepared imitation. The testatrix had become a drug addict. Medical evidence was given that she suffered from chronic Bright's disease and from injections of morphia for many years. She was comatose and moribund in the spring of 1925 and incapable of carrying out any testamentary act or of understanding its purport. The London Hospital put forward the will of 1914 as a valid and subsisting will at the time of the lady's death; they asked the court to revoke the probate which had been granted in respect of the supposed will of April 21st, 1925, and to pronounce for the lost will of 1914. They said the will of April 21st, 1925 (under which Mr. Waters became sole executor and beneficiary), was not duly executed; that the lady did not know or approve of its contents, and that she was not of sound mind at the time it was executed. Mr. Waters put in a defence, but apparently did not appear at the trial of the action, and was not represented. He said the 1914 will was revoked by the will of 1921, which in turn was revoked by the will of April 16th, 1925, itself revoked by the final will made five days later. The President pronounced against all the three wills set up by Mr. Waters, but felt unable to pronounce in favour of the 1914 will since there was a good deal of evidence of revocation of that will by subsequent testamentary acts. The upshot of these findings was, it seems, that the lady was held to have died intestate. In effect the London Hospital had charged Mr. Waters with fraud. On this issue the President found it unnecessary to pronounce, but he found against Mr. Waters with costs, and ordered the papers to be sent to the Public Prosecutor. The London Hospital came forward in this matter not because it expected to recover anything (indeed its counsel remarked that it was doubtful if there was any money left to be recovered), but out of a sense of duty to expose certain remarkable facts. Lord Merrivale, as already stated, complimented the hospital upon its public-spirited action.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Suicide in Germany.

THE belief that suicide has increased in frequency since the war is apparently mistaken. According to a recent statistical record the number of suicides per 100,000 persons was as follows:—

1888–90	..	20·6	1911–13	..	21·8	1920	..	21·7
1891–1900	..	21·4	1914	..	20·9	1925	..	21·5
1901–10	..	22·4	1915–19	..	16·9			

Apart from war-time, when for obvious reasons there was a decrease, the average number of suicides has been about the same for nearly 40 years. Generally the incidence is greater in towns than in the country. In the Rhenish provinces—Westphalia, Upper Silesia, and Bavaria—where Roman Catholics predominate, the number of suicides is only a third of the number in Berlin, Hamburg, and Saxony. It is a very striking fact that the percentage among women has considerably increased; whereas in 1890 only 26·3 per cent. of suicides were committed by women the percentage had increased by 1924 to 48·6. Forty per cent. are ascribed to mental troubles, only 7 per cent. to economic causes, and 33 per cent. to grief, whilst in 20 per cent. the cause is regarded as unknown. In 1924 as many as 104 children under 15 years committed suicide in Germany. Of other countries France Switzerland, Japan, Austria, and Hungary have about the same suicide-rate as Germany, but in Denmark and Sweden it is less by one-third, whilst in the United States, England, Belgium, Norway, and Spain it is less by one-half. In Italy and Holland the number of suicides per 100,000 is only one-third of that in Germany, and it is said that the lowest figures are recorded from Bulgaria and Ireland.

An Unusual Crime.

A trial unique in the history of the medical profession lately took place before a criminal court in Cologne, where a medical man was prosecuted for murdering a patient with whose wife he had had illicit intercourse. The facts as stated were very peculiar. The victim, an architect, had suffered from heart disease, and was attended at home by the accused. His state by and by became worse, and the doctor had him conveyed to a hospital where he had been an assistant physician before settling down as a medical practitioner. Here he was able to see the patient frequently, with the consent of the hospital staff. At the trial it was alleged that the accused had told the patient that he was suffering not only from heart disease, but also from syphilis, and had recommended him not to inform the hospital physicians of that fact, as he would himself cure him of the disease by injections given without their knowledge. To this the patient agreed, being unwilling, out of shame, to reveal his condition. When he went to hospital his condition at first improved, but after a few days he got worse and suddenly he died with gross albuminuria, hæmorrhage from the bowels, and general collapse. At the post-mortem it was discovered that death was due to mercury poisoning. The peculiar behaviour of the accused led to suspicion that he had caused the illness, for when the result of the autopsy was made known he fled to Amsterdam with the wife of the deceased. They were discovered there by the police before they could escape to the Dutch colonies, as had been their intention, and were brought to trial at Cologne. At the trial it was stated in evidence that the doctor had frequently given injections to the patient without the knowledge of the hospital physician. He had insisted that the patient should have a room of his own in the hospital, although he was scarcely in a position to pay for it. Death had occurred after an injection of novasurol, a strong mercurial preparation, of which he had given ten times the usual dose. The accused, however, pleaded not guilty; he denied that there had been any adultery,

and counsel pointed out that if his client had wanted to kill the patient he could easily have done it at his home, instead of having had him conveyed to hospital for the purpose. The public prosecutor claimed that the doctor had been induced to commit the crime by the patient's wife, and that the two were equally responsible. After a trial lasting three days the jury brought in a verdict of Guilty and both the medical man and the wife were sentenced to death.

Patent Medicines.

The President of the Apothecaries Association lately stated in the *Deutsche Medizinische Wochenschrift* that the list of patent medicines in tablet form kept by the Association includes not less than 20,000 preparations, and there are about 5000 more which are not to be found in the list. A chemist of Freiburg University has undertaken to examine the composition of the patent medicines and has ascertained after 5000 tests that large numbers of the compounds are practically identical. Often the name of the drug alone was changed. The need for legislation in this matter has been recognised, and in an official statement on behalf of the Government it is stated that at present no control is exercised over the quality and uniform composition of patent medicines, the only safeguard being the reputation of the manufacturer. The existence of too many of these preparations, it is remarked, encourages the profession to more schematic treatment, induces the public to cure themselves instead of consulting a medical man, and facilitates secret and illegal traffic in drugs. A new Bill will provide for control of the production of patent medicines within the chemical works and for the issue of licences to import such compounds from abroad.

Synthalin.

Before the Society for Internal Medicine Prof. Umber, of the West End Hospital, recently read a paper on his results in the treatment of 200 cases of diabetes by synthalin. His experience showed that synthalin is not useful in coma, that undesirable complications occur rather frequently, and that administration of the remedy has therefore to be interrupted from time to time. With synthalin the amount of sugar is reduced in the urine, but not in the blood; tolerance to carbohydrates is increased. Prof. Umber recommends that the drug should be given every other day, together with insulin. The quantity of insulin is gradually reduced and eventually synthalin alone is used. Insulin, he considers, continues to be the remedy par excellence for diabetes.

Artificial Pneumothorax.

At a recent meeting of the Leipzic Medical Society Dr. Fischer reported the results obtained in the Leipzic Medical Clinic in the treatment of pulmonary tuberculosis by artificial pneumothorax. In 60 per cent. of the 119 cases treated the opposite lung was healthy, whilst in 40 per cent. it was slightly affected. In 22 cases infection spread to the other lung during treatment, which was accordingly interrupted. The results were that 30 per cent. were cured, 22 per cent. were improved, in 8 per cent. the condition was unaltered, 17 per cent. became worse, 19 per cent. died, and in 4 per cent. no informatian could be obtained. In 52 per cent. the patients were able to work again. The puncture method was exclusively used; the patients had to stay two or three days in hospital, after which the refills could be done in the out-patient department.

INDEX TO "THE LANCET," VOL. I., 1927.

THE Index and Title-page to Vol. I., 1927, which was completed with the issue of June 25th, is now in preparation. A copy will be sent gratis to subscribers on receipt of a post-card addressed to the Manager of THE LANCET, 1, Bedford-street, Strand, W.C. 2. Subscribers who have not already indicated their desire to receive Indexes regularly as published should do so now.

Correspondence.

"Audi alteram partem."

THE LABELLING OF EGGS.

To the Editor of THE LANCET.

SIR,—The Sale of Food Order, 1921 (Labelling of imported produce—Eggs), which is a remnant of "Dora," has been renewed each year by the Expiring Laws Act. Its administration falls upon the Public Health Departments, which also administer the Sale of Food and Drugs Acts throughout the country, and in view of the Committee of Enquiry which is at present considering the marking of eggs it may not be without interest to the many medical officer readers of THE LANCET to have a review of the situation as it has affected a large borough.

The Order provides that: "A person shall not sell or offer or expose for sale, whether by wholesale or retail, as fresh eggs or new laid eggs, or under any description of which the words 'fresh' or 'new laid' form part, any eggs which have been imported into the United Kingdom unless the description also includes the word 'imported' or word or words disclosing the country of origin."

It will be noted that it is no offence *under this Order* to label foreign eggs simply "English," omitting the words "fresh" or "new laid," and we have known this to be done. The provisions are by no means easy to administer owing to the difficulty of proof, and it would appear as if this Order, as far as it relates to eggs, has been found to be unworkable by most authorities. I say this with all due respect to those who have made some effort in endeavouring to have foreign eggs correctly labelled in their areas. As far as one can judge from cases reported in the public press, prosecutions regarding eggs under this Order are very few. I find on referring to our records in Islington that since the Sale of Food Order, 1921, has been in force 80 summonses to date have been taken out. Of these, only two were dismissed, and fines and costs amounting to £188 10*s.* 6*d.* were imposed.

Some interesting points have come out through the proceedings taken. Three of the cases were against wholesale dealers, as we refrained from taking action against the retailer who had been misled in his purchases. In another case, a purchase was made of eggs which were unticketed, but the inspector distinctly asked for "new laid eggs," and no mention was made of the fact that the eggs were imported. The defendant's manager and assistant, both at the time and in court, maintained that no offence had been committed as no written label had been used. With the remark that the defendant had been too clever, the magistrate convicted. In other cases, the word "Imported" has been written on the back of the label, or else in small letters at the foot so as to be concealed by the eggs.

In Islington this work, with the exception of two prosecutions, has been undertaken with other duties by one inspector only. In addition to these prosecutions there have been innumerable verbal warnings, and a great many letters written to offenders. It has been found that when a new tradesman moves into Islington, until he is warned he adopts the slack methods bordering on, if not actually wilfully deceptive which he has utilised, in the place he has come from, without check. We have thus forced upon us in Islington the practical futility of the provisions of this Order if they are not to be generally enforced on our borders.

Proof is, as I have stated, often a difficult matter, and has to be obtained by indirect means—e.g., the invoicing of the eggs to the retailer as imported, and the knowledge that these same imported eggs have been incorrectly described according to the provisions of the Order. Undoubtedly, not only are eggs misdescribed, but frequently foreign and home eggs are mixed. The difficulty surrounding identification of the foreign egg could be overcome if each foreign egg were required to be marked, before importation,

in some simple manner. This would prevent deception, or at least provide the means of identification if wrongly labelled, or if mixed with home produce. When one considers the number of warnings that have been issued in Islington and the number of successful prosecutions, one cannot conceive that the tradesmen in other places are more particular in carrying out the provisions of the Order. The effective remedy would appear to be, as I have said, an efficient but simple system of marking before importation. This would be simpler than the method of distinguishing home produce by marking which was advocated in a letter to the *Times* of Feb. 8th, 1926, from a Sussex writer.

In my opinion it is quite practicable to stamp eggs with a simple letter "I" for "Imported," or a small star, which would denote a foreign egg. I am sure our experience in Islington of the difficulties which surround the administration of this Order must have been experienced throughout the country, and it would be interesting to have the experiences of other medical officers of health. It seems useless to go on from year to year with this practically unworkable Order under the conditions which I show to exist.

I am, Sir, yours faithfully,

G. CLARK TROTTER, M.D., F.R.S. Edin.,
Medical Officer of Health, Metropolitan Borough of Islington.
Municipal Buildings, Upper-street, N., July 9th, 1927.

DIPHTHERIA IN LONDON.

To the Editor of THE LANCET.

SIR,—I have read Dr. Graham Forbes's letter with much interest. Since both of us have based our figures on the official returns of the Registrar-General, he and I are bound to be in agreement as to the facts. I am well acquainted with Dr. Forbes's valuable report, and my letter was not directed to anything there stated, but to the sentence in your leading article of June 11th, where you say: "his (Dr. Forbes's) figures show the incidence and mortality of diphtheria to be higher in London than in any other large city in Great Britain, and higher than that of almost any other European capital." This I consider does less than justice to the London of to-day. My letter proved that London and West Ham had the lowest diphtheria case death-rates during the past five quarters of any town in England with more than 300,000 inhabitants, and Dr. Forbes corroborates this finding.

It is quite true that an average of 15 years shows London to be in a low position, but such average does not give a correct, or even a fair indication of the treatment of diphtheria in London to-day, as is proved by the figures in the last table of Dr. Forbes's letter. No allowance for uncorrected returns can possibly, in my opinion, depose London from its high position on that table. With reference to the large foreign cities, I quoted only the figures for the first quarter of 1927 for the reason that the Registrar-General's returns do not give figures continuously during 1926 for all of the cities mentioned, and I had no means of procuring the missing figures except by worrying some official in the Registrar-General's office, which I was reluctant to do.

My sole interest in this matter lies in making it clear to the medical profession that the diphtheria situation in London to-day is not quite so black as you (no doubt unintentionally) painted it.

I am, Sir, yours faithfully,

London, W., July 9th, 1927. THOMAS MABEN.

*** Our readers now have before them the figures which will enable them to assess the degree of blackness for themselves.—ED. L.

MEDICAL CONFIDENCES.

To the Editor of THE LANCET.

SIR,—Since delivering my address to the Medico-Legal Society, published in THE LANCET of July 2nd (p. 4), my attention has been directed by Sir William Collins to the regulations regarding centres for the treatment of venereal disease. The Public Health (Venereal Diseases) Regulations, dated July 12th, 1916, issued by the Local Government Board, predecessor of the Ministry of Health, to local authorities contain the following instruction:—

Article II. (2). All information obtained in regard to any person treated under a scheme approved in pursuance of this Article shall be regarded as confidential.

A memorandum was also issued by the Local Government Board which contained the following statements:—

"It is essential that each patient attending for diagnosis or treatment should be assured that, although his home address will be kept confidentially for reference, it will never be communicated to others. The desirability of having the home address in order to be able to arrange subsequent appointments should be explained to the patient."

"At an early visit the patient's name and home address should be noted confidentially and kept separate from his clinical record. It should be explained to the patient that the home address will under no circumstances be used except for confidential communications to the patient himself respecting his treatment."

Obviously these provisions create special conditions regarding patients attending venereal disease clinics, and may impose legal obligations or secrecy upon the local authority and its medical and other servants. How the regulations would affect disclosure in the witness-box is doubtful. They purport to be made under statutory powers. Consequently, if the regulations were *intra vires* it might well be contended that statutory secrecy had been established. But however this may be the ethical position is plain, both for doctors and laymen engaged in work at such clinics.

I am, Sir, yours faithfully,

July 5th, 1927. RIDDELL.

SULPHUR METABOLISM.

To the Editor of THE LANCET.

SIR,—In a recent article (THE LANCET, June 18th, p. 1283) Dr. A. P. Cawadias suggests that in arthritis deformans there is a definite deficiency of thiopexy—i.e., an increased sulphur katabolism. It may be of some interest to your readers to compare his results with those obtained at the Devonshire Hospital, Buxton, with various rheumatoid conditions. 42 cases gave the following results:—

Total nitrogen / Total sulphur ratio.	Cases.	Total nitrogen / Total sulphur ratio.	Cases.
7·6–10·0	4	17·6–20·0	2
10·1–12·5	6	20·1–22·5	0
12·6–15·0	24	22·6–25·0	1
15·1–17·5	4		

My figures for normals vary from 11·5–15, values that accord with those found by other workers and with the figure given by Dr. Cawadias in the second paragraph of his article. In his own experiments Dr. Cawadias obtained TN/TS ratios in controls of from 1:7 up to 1:10, which suggest that either the diet used was abnormally rich in sulphur or that the Salkowski method of estimating total sulphur in urine gives higher results than the Folin process with Benedict's oxidising reagent.

I am inclined to the opinion that there is more in Dr. Cawadias's original suggestion regarding deficient oxidation than in his latter one as to excessive sulphur katabolism. If, as Folin has suggested, the neutral sulphur of the urine is endogenous in origin and is fairly constant in amount, it is necessary to consider the excretion of this moiety in terms of grammes per diem and not as a percentage of the total sulphur unless the latter is maintained at a constant value. My figures for the neutral sulphur in the urine of the same 42 cases are:—

Neutral sulphur as SO_3. Grammes per diem.	Cases.	Neutral sulphur as SO_3. Grammes per diem.	Cases.
Under 0·10	4	0·41–0·50	3
0·11–0·20	8	0·51–0·60	1
0·21–0·30	11	0·61–0·70	0
0·31–0·40	14	0·71–0·80	1

If the maximum value for normals is taken as 0·30 g. per diem the above figures indicate that

rheumatoids show a tendency towards deficient oxidation, but more proof is desirable as to the amount of neutral sulphur excreted by normals. In this respect, as with many other aspects of the rheumatoid problem, the difficulty lies in obtaining controls that are really comparable as regards age. The recent work at Ancoats showed that glucose tolerance decreased with increased age, and it is not improbable that other functions may be effected in a similar manner. As most of the controls used in work on neutral sulphur excretion are young students, deductions made from a comparison of such normals with the figures given by a much later age-group should be extremely guarded.

In view of the importance of sulphur metabolism it is certainly desirable that further work should be done on this problem.—I am, Sir, yours faithfully,

JOSEPH RACE,
Biochemist to the Devonshire Hospital.

Buxton, July 1st, 1927.

COLOUR TESTS FOR VITAMIN A.

To the Editor of THE LANCET.

SIR,—In an admirable paper under the above title in your issue of July 2nd Mr. S. G. Willimott and Mr. F. Wokes mention my observations on the destruction of vitamin A in cod-liver oil under the influence of sunlight and other sources of actinic rays, with the comment that no details were given of the period of exposure or of the distance from the mercury-vapour lamp. The omission of such data was not due to oversight on my part, but rather to the difficulty of expressing doses of artificial light in intelligible terms.

Since the question has been raised I may perhaps be allowed to draw attention to some points of importance in expressing dosage, and at the same time to supply the data which apply to the lamp I used in my experiments. In the absence of international units for comparing the output of arc lamps, simple statements of time and distance such as Messrs. Willimott and Wokes make in their paper, while they may be adequate for their own notes, give no accurate idea to other workers of the dose or range of light employed, since they refer only to two out of a number of variable factors. The following data apply to the destruction of vitamin A in a well-known brand of cod-liver oil under a Cowper Hewitt mercury-vapour lamp, taking a steady current from a bank of accumulators.

The oil is sealed in 10 cm. lengths of glass quill tubing of 7 mm. bore and 0·5 mm. wall thickness, one tube being filled as completely as possible. The glass of the tubes transmits the whole of the visible spectrum and the near U.V. to 3200 A.U. The tube is irradiated vertically beneath and parallel to the long axis of the mercury-vapour lamp, and at a distance of 10 cm. The exposure is started when the lamp has reached a steady output as registered by an ammeter in series and voltmeter in parallel with lamp. Control tubes of oil covered with black paper are kept: (1) at 10 cm. from the lamp; (2) at room temperature during the exposure.

Under the above conditions, with the lamp consuming 375 watts after an exposure of three-quarters of an hour, the oil gives a doubtful reaction and, after one hour, a definitely negative reaction with $AsCl_3$. Both control tubes show a strong positive reaction at the end of the exposure.

It would not be surprising if under similar conditions as regards power-consumption, time, and distance of exposure, &c., other lamps gave different results, but it would be interesting to know how such results compare with those of other laboratories. The observation of Messrs. Willimott and Wokes that the destruction of the vitamin continues after the oil has been removed from the source of light is important and is, as they say, a strong argument in favour of keeping the oil in the dark until the time of use.

The possibility of the production in cod-liver oil of some substance antagonistic to vitamin A is suggested by the above observation and is supported by some experiments I made last summer to test this point.

A series of dilutions of normal cod-liver oil in "deluminated" oil from the same source were made and tested at once with $AsCl_3$. A 20 per cent. dilution of normal oil gave a strong positive reaction, a 10 per cent. dilution was faintly positive, and a 5 per cent. dilution was negative. Twenty-four hours later the 20 per cent. dilution gave a reaction similar to the 10 per cent. freshly prepared dilution, but, after a further 24 hours, I failed to detect any further destruction of vitamin A.

Even a freshly prepared dilution of normal in deluminated oil did not give as good a reaction as the same dilution in an inert medium such as liquid paraffin. I am, Sir, yours faithfully,

Middlesex Hospital, W., July 12th. P. R. PEACOCK.

"TENNIS LEG."

To the Editor of THE LANCET.

SIR,—The treatment by massage and early movement, referred to in your annotation last week, was advocated and carried out by Wharton Hood. His little book entitled "Treatment of Injuries by Friction and Movement," which is, I believe, out of print, gave a clear account of the accident and its treatment. I have carried it out with absolute success for 20 years, the last case being a rather severe muscle-fibre tear in my own calf through jumping out of a dog-cart on to a very rough road. My practice is to rest the leg for 48 hours, then to lay overlapping strips of strapping from below the swelling and tender point to above its upper margin, and get the patient to walk, or rather hobble, about. There will be pain, of course, but this diminishes day by day if an honest attempt is made to walk and massage given over the strapping. As the strapping gets loose it should be replaced, and if well soaked with petrol will come away painlessly (and hairlessly). In my own case I was walking well but cautiously in a fortnight and was practically normal in three weeks after the injury.

I am, Sir, yours faithfully,

July 12th, 1927. G. P. JAMES.

QUININE AND CHINOSOL SUPPOSITORIES.

To the Editor of THE LANCET.

SIR,—In your issue of July 2nd the Medical Research Committee of the Society for Constructive Birth Control recommends a contraceptive suppository of chinosol. Chinosol has been widely used for this purpose for some years in Germany, England, and the United States, but the results, on the whole, have been even less satisfactory than those obtained with quinine. A considerable number of women are unable to tolerate chinosol in any medium, or in any concentration which is sufficient to act as a reliable contraceptive, and its use is frequently followed by inflammation and discharge. I have seen many such cases in my own practice, and many more were reported to me by German and American colleagues.

I saw a New York surgeon perform an artificial insemination (unhappily unsuccessful) on a doctor's wife who was suffering from cervicitis and sterility, which he attributed to the use of chinosol. She had been under his care for many years and he had attended her in her previous confinements. He was convinced that she had become sterile as a result of using a well-known chinosol jelly. He gives birth-control advice to his patients when they ask for it, so he cannot be suspected of any hostility to contraception in general. The medical officer of a large birth-control clinic in New York also told me that she had seen inflammation and discharge following the use of chinosol in a large number of cases.

There is a good deal of evidence accumulating that almost all the chemicals usually employed for contraceptive purposes tend to cause discharges and inflammation, and I believe that this is because they destroy, or at least weaken, Döderlein's bacillus, which is a normal inhabitant of the vagina, and which acts as a defensive army against the onslaughts of pathogenic organisms. Döderlein's bacillus, being a lactic-acid-producing bacillus, is unharmed by the presence of

lactic acid in a strength of 1 per cent., which is sufficient to kill spermatozoa if they are brought in contact with it.

Dr. W. Carey, visiting gynæcologist at Brooklyn Hospital, N.Y., and myself began, independently of one another, to use a lactic-acid jelly some six years ago and both of us have found it most efficient if used in conjunction with an occlusive pessary. In addition several hundred doctors to whom I have recommended it inform me that they have found it reliable and harmless. In my own practice I have advised its use to several thousand patients, and so far no harmful results have been reported to me. Five patients have complained that it caused a smarting sensation, and in all these cases I have found that there was *previously* a hyperæsthesia which had at times caused dyspareunia. In these cases I recommended chinosol or boracic instead of lactic acid. Apart from these five women, who complained of temporary discomfort, no harmful or even disagreeable results have been reported to me even by patients who have used it regularly for as much as five years.

I am, Sir, yours faithfully,

Harley-street, W., July 5th, 1927. NORMAN HAIRE.

NOMENCLATURE OF ENCEPHALITIS.

To the Editor of THE LANCET.

SIR,—May I ask for the hospitality of your columns to advocate a desirable change of nomenclature? At present it is usual to classify cases with symptoms of organic nervous disease following (or presumably following) acute encephalitis lethargica as cases of *post-encephalitis*, or *sequelæ of encephalitis*. These cases should be more correctly designated *chronic encephalitis* both on clinical and pathological grounds; and as from the beginning of this year, this nomenclature has been introduced into the register of cases at this hospital.

Clinically we know that the condition is usually a slowly progressive one, and a histological examination of the appropriate region post mortem always shows evidence of a recent active inflammatory process as opposed to simple healed lesions. The following clinical note is relevant:—

Yesterday a boy of 14 years was admitted into the hospital complaining of somnolence and pain in the right shoulder for one week. Prior to this he had always enjoyed perfect health and an exemplary character. During the last week his character has undergone a complete change. He has become moody and "difficult" and has been guilty of petty pilfering (such as stealing cherries from a shop-front) on three occasions. He is, I believe, suffering from acute encephalitis, in the modified form which is now becoming familiar, but at the same time he is showing from the onset a "characterological" change of the type which is usually called "post-encephalitic."

It is possible that there are cases which show undeniable evidence of the morbid process having undergone complete arrest, and such patients might appropriately be said to be suffering from the sequelæ of encephalitis, but the term should be reserved for these cases only. Incidentally there is a type of case which can be admirably designated *subacute* encephalitis lethargica (or epidemic encephalitis).

I am, Sir, yours faithfully,

E. B. STRAUSS,
Senior Medical Registrar, Hospital for Epilepsy and Paralysis.

Maida Vale, London, W., July 5th, 1927.

ILFORD EMERGENCY HOSPITAL.—Lady Patricia Ramsay has opened the war memorial children's wing of this hospital. It is hoped that the two acres of land surrounding the hospital will be utilised as a memorial garden available for special occasions.

THE LATE DR. F. K. RIDER.—Dr. Frederick Kirke Rider, of Leeds, who died on July 4th at the age of 62, was a well-known practitioner in East Leeds, and until his retirement from practice a few years ago was a member of the Leeds Panel Committee. A student at the medical school of Leeds, he qualified L.S.A. in 1892, later becoming L.M.S.S.A. He was a pioneer in both cycling and motoring in Leeds. He leaves a widow, two sons, and two daughters.

Public Health Services.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

A GROUP OF HEALTH RESORTS.

THE following are some of the statistics of six health resorts for 1926:—

Name of district and mid-year population.	Birth-rate.	Death-rates per 1000 of the population.					Death-rates per 1000 births.		
		All causes.	Tuberculosis.	Cancer.	Resp. diseases with influenza.	Heart disease.	Diarrhœa under 2 years	Infant mortality.	Maternal mort. from childbirth.
Torquay .. .. (36,990)	13·7	14·4	1·40	1·73	2·2	2·9	4·0	63	6·0
Tunbridge Wells (34,430)	13·3	13·6	0·84	2·30	1·7	2·2	4·4	61	2·2
Ramsgate .. .. (30,270)	16·5	13·1	0·99	1·75	1·3	1·9	11·9	72	6·0
Margate .. .. (27,950)	14·4	11·0	0·86	1·36	0·8	1·6	7·4	45	7·4
Lytham St. Anne's (23,910)	10·9	13·7	0·83	2·13	1·2	1·9	11·4	57	15·0
Bognor .. .. (14,020)	12·0	9·3	0·43	1·42	1·2	1·8	0·0	41	0·0

In the above table the death-rates from causes such as cancer and heart disease are high because the aged and infirm go to live in health resorts for their climatic and other advantages. This does not apply so generally in the case of tuberculosis, owing to the use of sanatoriums. The environment which is good for the invalids should be productive of low infant mortality-rates and low maternal death-rates among the more permanent resident populations.

The hours of bright sunshine recorded in 1926 showed a considerable range. They were: Torquay, 1699; Ramsgate, 1681; Margate, 1653; Bognor, 1639; Tunbridge Wells, 1458; and Lytham St. Anne's, 1211.

Torquay.

Dr. Thomas Dunlop recounts the physical and climatic advantages of this borough, and mentions that the population more than doubles itself during the season. The up-to-date medical baths are claimed to be equal to anything at home or abroad. The sunshine (1699·5 hours in a poor year like 1926) and the possibility of open-air life make Torquay a good place for children. Dr. Dunlop says a better infant mortality record might be expected. The figures for the five years preceding 1926 were 81, 47, 49, 53, and 64. There is no antenatal clinic as yet, but 25 expectant mothers made 61 attendances by appointment at the school clinic. (The total number of births in the town was 507.) There is as yet no lying-in home for ordinary cases, but it is hoped to have such accommodation in the proposed new general hospital. Out of 1379 school-children examined only 27 per cent. were found to be adequately protected by vaccination. Of four cases of enteric fever notified one had an interesting history, the patient being apparently infected by living in the same house as a typhoid carrier who gave rise to an outbreak of a dozen cases in 1913.

The upland Dartmoor water, clarified by mechanical filters, has the advantage of being soft, but not plumbo-solvent. Steps are being taken to prevent flooding in certain areas by increasing the sewerage facilities. Dr. Dunlop complains that the butchers do not coöperate in preventing the sale of diseased meat. By arrangement with the Newton Abbot R.D.S., the borough does the inspection of carcasses in the slaughter-houses just over the boundary. During the year 246 pigs' heads were condemned for tubercle, 61 of these being exposed for sale in shops. Dr. Dunlop would like to see a public abattoir

and a central depôt for meat inspection established. Designated milks show some progress. There is one producer of Certified milk in the borough and the council obtain Grade A (T.T.) milk for their refreshment rooms, for the open-air and secondary schools, and for necessitous mothers. There is big business in ice-cream during the summer months. The places of preparation were not always satisfactory, and one of them was a bedroom. Six samples of ice-cream were examined for *Bacillus coli*, each with a positive result, and, seeing that the ingredients are raised to the boiling-point, Dr. Dunlop blames dirty utensils for the contamination. During the year 369 houses were erected with State assistance, but of these only 31 municipal houses were available for renting, and therefore the relief to those most in need was trifling. On the Windmill Hill Council Estate 16 flats and 43 houses are to be erected. Dr. Dunlop puts in a plea for smaller flats and houses, but the policy of the Ministry of Health is to deal with the largest families first. There are several insanitary areas waiting to be sanified. For the "Pimlico" area, houses for the "to be dispossessed" have been erected and temporarily let to other tenants urgently needing them. If the dispossessed agree to take the houses erected for them, the temporary tenants will have to be moved into other council houses.

Tunbridge Wells.

Dr. F. C. Linton points out that the death-rate of 13·6 becomes a rate of 9·9 when corrected for the age and sex constitution of the population by the Registrar-General's factor. For about one-half of the year the water from springs in the Tunbridge Wells sandstone meets requirements. During the remainder of the year the spring water is supplemented by seven artesian wells at Pembury, whence it is pumped to a distributing reservoir 500 ft. above sea-level. The borings of the artesian wells pierce the Wadhurst clay and bring water from the underlying Ashdown sands. This water contains some iron which is effectively removed by Candy oxidising pressure filters, and there is also about an acre of open filter beds. The Ashdown sands reach the surface some miles from the bore wells. The temporary and permanent hardness are given as 3·5. Until the dry season of 1921 the sources mentioned were thought to be sufficient for the population, but it is now regarded as advisable to increase the supply, and, after an inquiry by the Ministry, it has been decided to tap the Ashdown sands to the north-west of the borough by a fresh bore-well about seven miles distant from the existing artesian wells. The method of refuse disposal has also been under review and it has been decided to study the plan adopted in Bradford, which it is hoped will prove less costly than treatment by a destructor.

A fund is being collected to meet the cost of transferring the general hospital from its cramped and noisy position to a more open and quieter site on the Mount Ephraim ridge. There is no municipal maternity home, but the corporation made an agreement in April, 1926, with a "voluntary" home for the admission of necessitous cases where the home environment is unsuitable. The dental practitioners have combined to form a district public dental service for the benefit of persons who are unable to pay large fees.

Ramsgate.

Dr. W. J. Bannister reports that the number of houses built during the year was much larger than in any year since the war, and with the completion of a considerable number of the houses of the council's scheme the prospect of substantial relief during 1927 is brighter. During the current year it should be possible to make progress with the Ratcliffe Square unhealthy area and to demolish some of the most unsatisfactory dwellings in the district. The death-rate of 13·1 becomes 10·9 when corrected for age and sex constitution of the population. Ramsgate compares unfavourably with other places as regards the number of uncertified deaths. The percentage for 1926 was 3·96, as compared with 1·0 for England and Wales, 0·5 for the 105 large towns, and 1·1 for the 158 smaller towns. The routine medical inspection showed that about 40 per cent. of the school-children are vaccinated. Antenatal clinics are conducted once a fortnight by a local medical practitioner. The shell-fish from Pegwell Bay are not allowed to be sold for human consumption until they have been sterilised for six minutes by steam under pressure. The council provides and works a sterilisation station at Broad-street, and no charge is made to vendors of shell-fish for use of the station. The water-supply is a hard chalk water and contains over 24 parts per 100,000 of chlorine as "salt." The adits from which the water is pumped are over one mile from the sea. The sewage is got rid of by gravitation without pumping and is conveyed through the outfall sewer to a point over 1250 ft. from the shore, whence it is carried by currents straight out to sea, whatever the state of the tide. An unusual nuisance caused by the rotting carcass of a whale about 24 ft. in length and weighing three tons had to be removed by the sanitary inspector from the foreshore. The control of the ice-cream trade is difficult as there is no power to compel the registration of ice-cream vendors, who suddenly increase in numbers during spells of hot weather.

Margate.

Dr. Rowan McCombe says that the population during the height of the season exceeds 100,000. A scheme is in hand for the erection of a much larger hospital in lieu of the existing cottage hospital. It is badly needed. There are four midwives practising in the town. Two are municipal, and at very little cost to the ratepayers confer incalculable benefits on poor people. They occupy their spare time in antenatal visiting.

The Margate Corporation supply water to 21 outside parishes. The water is pumped from deep wells with connecting tunnels in the chalk. An analysis gives the hardness as 18·2 before boiling and 3·8 after boiling, and the amount of chlorine expressed as "salt" as 3·69 gr. per gallon. The whole of the sewage has to be pumped twice a day for about one hour at high tide and is discharged at deep water about 600 yards from the cliff, having previously undergone a screening process. The housing problem is aggravated by the workers who come into the town every season to cater for visitors and remain in the town after the season is over, and in spite of the efforts of the corporation there are still a large number of families requiring houses. From 1921 to 1925 the corporation erected 206 houses and at present 150 are being built on the Dane Valley Estate, 24 of these having been completed during 1926. Great difficulty is being experienced in inducing ratepayers to use proper bins for house refuse and to keep them in a sanitary state. Action is to be taken under the local Act of 1926 to bring about a better state of things. An outbreak of paratyphoid occurred in a children's institution during the year; it was attributed to infected meat. There were 111 cases, mostly of a mild character and there were no deaths.

Lytham St. Anne's.

Dr. John P. Litt informs us that his borough is a seaside resort with a coast-line of 6¾ miles, facing successively south, south-west, and west, and extending from the estuary of the Ribble to the southern boundary of Blackpool. The population is more residential than industrial, though there is a slipper works, an aircraft works, a shipbuilding and engineering works, and several laundries. None of these has any specially bad influence on health. The infant mortality has come down to its present figure (57) from 143 in the last quinquennium of the nineteenth century, and 114 in the first quinquennium of the present century. The water is soft and derived from the impounding of the rivers Calder and Hodder and the Grizedale Brook. The sewage from the Lytham district is pumped into settling tanks and discharged into the sea one hour

after high tide. The works of re-sewering a large portion of the area is now in progress. The Ribble mussel beds were closed during 1926 and the borough treasurer and medical officer have been instructed to report on the mussel purification tanks at Conway. The condition of a portion of the cockle beds is under investigation. During the summer months a number of boys' brigades, cadet corps, and boy scouts camp in the open fields of the borough, and arrangements are made to ensure adequate water-supply and accommodation. The general standard of housing is very good and there are no back-to-back houses or unhealthy areas. The number of houses erected during the year was 254, including 56 municipal houses and 48 others erected with State assistance. There are 80 more municipal houses in course of erection. There are two public slaughter-houses, one at Lytham and the other at St. Anne's, and no private slaughter-houses. The veterinary inspector reports that he examined the milch cows, numbering about 560, every quarter. Twenty-one cases of suspected tuberculosis were reported to the county council, and of these 20 were considered to be infected and were slaughtered. The diagnosis was confirmed in each case; in one the larynx was chiefly affected, and in two the udder, whilst the remainder were cases of tuberculosis of the lungs or tuberculous emaciation. The standard of cleanliness was better than in previous years, grooming of cattle being more general. Proceedings were taken for milk below the standard in two cases: one was 16 per cent. deficient in fat and the other indicated a 9 per cent. addition of water. Both cases were dismissed at the Lytham police-court. All the elementary schools are supplied with formalin sprays. An up-to-date maternity block has been added to the St. Anne's war memorial hospital by the generosity of a local lady. The block was opened on Nov. 9th, and contains one four-bed and two single-bed wards, a labour room and an observation ward. The fee fixed is £3 3s. per week and the local authority intends to contribute a portion of the fee when necessary. It is hoped that the borough will take part in the county orthopædic scheme in respect of both ex-babies and school-children. At present specialist advice is obtained for urgent cases, but owing to the want of following-up little benefit results.

Bognor.

Dr. T. Philips Cole reports that his district is supplied with hard water from deep wells at Eastergate, about 4½ miles north of the town. Sewage is dealt with by two large storage tanks and a pumping station. The outfall is closed from five hours after until one hour before high water, during which time the sewage is pumped from the low level tank to the high level. New streets are now laid with surface water sewers, but the bulk of the storm-water at present passes into the foul water sewers and throws too great a strain on their capacity. It will be necessary shortly to make special provision for surface-water. Progress has been made in the erection of small houses during the year. The council built 41—12 parlour and 29 non-parlour. A firm of builders erected 34 parlour-houses to be let at a weekly rental. A further 51 have been built by private individuals with State assistance and the council have continued their policy of advancing loans up to 90 per cent. of the value of the houses. The waiting-list still contains the names of 127 residents. There were 41 milk samples examined for tubercle. Three which gave a positive result were all taken from one retailer, who had a mixed supply of milk from herds outside the district. The matter was reported to the county council. The herds were examined and one cow slaughtered. Further samples, however, were still positive and the matter was again reported to the county council and was still under investigation at the end of the year. Bacterial examinations of 66 samples were made to investigate cleanliness; 47 per cent. had under 30,000 bacteria (Certified standard); 81 per cent. had under 100,000; 97 per cent. had under 200,000 (Grade A standard); and 73 per cent. showed *B. coli* absent. These figures show an advance on the 1925 results. The bacterial examination of ice-creams gave very uneven results, the bacteria per c.cm. varying from 1000 to 286,000. As the result of repeated testing and effort on the part of the maker one lot of ice-cream improved from 86,000 bacteria at the first test to 1000 at the seventh. Diphtheria and scarlet fever have shown a slight prevalence only during the past five years, and Dr. Cole attributes this to the fact that most of the susceptible individuals were attacked during the epidemic years 1919 to 1921.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED JULY 2ND, 1927.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 228 (last week 259); scarlet fever, 1534; diphtheria, 735; enteric fever, 89; pneumonia, 800; puerperal fever, 41; puerperal pyrexia, 96; cerebro-spinal fever, 9; acute poliomyelitis, 6; encephalitis lethargica, 38; dysentery, 10; ophthalmia neonatorum, 117. There were no cases of cholera, plague, or typhus fever notified during the week.

Deaths.—In the aggregate of great towns, including London, there was 1 death from small-pox (belonging to Oldham C.B.), none from enteric fever, 27 (1) from measles, 6 (3) from scarlet fever, 20 (8) from whooping-cough, 16 (3) from diphtheria, 36 (8) from diarrhœa and enteritis under two years, and 28 (3) from influenza. The figures in parentheses are those for London itself.

Obituary.

LEWIS DAVIE CRUICKSHANK, M.D. ABERD., M.R.C.P. EDIN., D.P.H.

WE have to record the death, on July 10th, of Dr. L. D. Cruickshank, following an attack of influenza. The medical staff of the Scottish Board of Health loses a valuable member, whose gifts were used to advantage in the public service.

Lewis Cruickshank was born at Tarves, Aberdeenshire, in 1875. At the age of 17 he was already manager of a wholesale drug business in Aberdeen, and when in 1902 he graduated in medicine at the University he was awarded the John Murray Medal and Scholarship, and was regarded as the most brilliant student of his year. After a short time spent in pharmacological research and private practice, he became medical officer and lecturer to the Aberdeen Provincial Training College, where it was his duty to instruct school-teachers in the principles of hygiene. From this work he passed on to the post of principal of the College of Hygiene and Physical Training at Dunfermline, in which capacity he visited Denmark more than once in order to familiarise himself with modern methods. The reorganisation effected at the College led to its becoming a central institution under the Scottish Education Department, and Dr. Cruickshank's success was recognised by his being made the first full-time medical officer and chief inspector of physical training to the Department. Here it was his duty to superintend the physical education given in more than 3000 State-aided schools; he had control of numerous assistants in this work, and as he was also responsible for the medical examination of school-children, and for the care of the feeble-minded, he acquired exceptional experience of public health work in its relation to education. This experience was frequently utilised on behalf of the Society of School Medical Officers, in the affairs of which he took a prominent part. In 1919 the care of school-children came under the ægis of the Scottish Board of Health, and Dr. Cruickshank was transferred to the Board's staff, as a member of which he was given charge of important inquiries covering a wide field. This

work gave him plenty of scope for using his powers as an organiser and for applying his notable constructive ability. The last investigation on which he was engaged was the special inquiry made to determine the nutritive value of milk as a food for growing children. This inquiry, conducted in conjunction with Dr. J. B. ORR, director of the Rowett Institute, is said to be the largest of its kind ever made in Scotland, and it is hoped that the results to be published will be of great value.

Dr. Cruickshank leaves a widow and three sons.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

MENTAL DEFICIENCY BILL.

THE Mental Deficiency Bill was considered by Standing Committee A of the House of Commons on June 28th. Sir RICHARD BARNETT was in the chair.

Clause 1 (definition of defectives) reads as follows:—

(1) The following Section shall be substituted for Section 1 of the Mental Deficiency Act, 1913 (in this Act referred to as "the principal Act")—"1.—(1) The following classes of persons who are mentally defective shall be deemed to be defectives within the meaning of this Act: (*a*) Idiots, that is to say, persons in whose case there exists mental defectiveness of such a degree that they are unable to guard themselves against common physical dangers. (*b*) Imbeciles, that is to say, persons in whose case there exists mental defectiveness which, though not amounting to idiocy, is yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so. (*c*) Feeble-minded persons, that is to say, persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or for the protection of others, or in the case of children, that they appear to be permanently incapable by reason of such defectiveness of receiving proper benefit from the instruction in ordinary schools. (*d*) Moral defectives, that is to say, persons in whose case there exists mental defectiveness coupled with vicious or criminal propensities, and who require care, supervision and control for their own protection or for the protection of others. (2) For the purposes of this Section 'mental defectiveness' means a condition of arrested or incomplete development of mind existing before the age of eighteen years, whether arising from inherent causes or induced by disease or injury."

Colonel WEDGWOOD moved in substituted Subsection (1) (*c*) to leave out the words "for their own protection or." He said that while there was not much difference between paragraphs (*a*), (*b*), and (*c*) and the wording of the original Acts, these particular words were novel. He preferred the definition in the original Act. It has been stated on the second reading of the Bill that it was intended primarily to deal with the victims of encephalitis lethargica; persons who developed feeble-mindedness after the period of infancy. With that proposition he had no complaint at all. There did not seem to be any difference between feeble-mindedness developed in infancy and feeble-mindedness developed later on; the same law should apply, but there was a considerable alteration in the definition of moral defectives in paragraph (*d*). The real danger of the Bill was that they brought within its scope a large new class of people who would be liable to be sentenced for life to these homes for mental defectives. Did they really want to get in the definition of feeble-minded, immoral girls who walked the streets, and who were feeble-minded to a certain extent as far as their moral capabilities could be measured, but were otherwise not feeble-minded at all. The chief argument was that such women bred unrestrained feeble-minded children. He did not think that was proved, but medical men knew better than he did. These girls were quite as fully acquainted with all the modern devices for preventing propagation as any other section of the community, and he did not think they bred more than others. If they did, he did not believe in the interests of the community that they ought to stretch the definition of feeble-mindedness to include them. These words, "for their own protection," were the dangerous words. As long as feeble-minded people were dangerous to others they came under the same law as lunatics, and they must be shut up. But these words "for their own protection" took in people who were not a danger to the community; people who were merely immoral and who, well-intentioned people thought, should be protected for their own sake. If they could protect them and leave them free by all means let them do so, but if they could only protect them by putting them away for life, then in considering what form of protection they ought to apply, they should compare it with the desirability of leaving people who were not a danger to the public to carry on an immoral life.

Mr. CROMPTON WOOD said that he did not think under the Mental Deficiency Act there was any imprisonment for life. The tendency was to try to get rid of these patients as quickly as possible. There was nothing like enough room for all the patients who wanted attention, and certainly the precautions taken and the continual examination of these people quite precluded any suggestion that they were imprisoned for life. If the Committee left out these words they barred from institutional care all those who were not a menace to other people, but who still wanted care, supervision, and control. They wanted to bring under this Bill as many people as needed its benefits. The people who would be excluded if these words were omitted needed the benefits such as care, teaching, and nursing, and what was much more important, the most skilled medical advice which they could never obtain in their own homes. Colonel Wedgwood was asking the Committee to legislate in one way for the rich and another way for the poor. It was estimated that about 10 per cent. of the young people who went through these great institutions were enabled to go out into the world largely owing to the care and attention which they received. This amendment would ruin the whole meaning of the Mental Deficiency Acts.

Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health) said that from the point of view of his department he could not advise the Committee to accept the amendment. Colonel Wedgwood's remark about locking these people up for life was a complete misstatement of the position in regard to the treatment which people got in these institutions to-day. He should have thought that nothing would have appealed more to the humane feelings of anyone than that steps should be taken to give these people such assistance as was possible in these institutions. To confine the clause to those who could only be sent to these institutions for the protection of others was an impossible course of action which he did not think anyone would care to adopt. With regard to the question how this clause would come into operation, the answer was that it would come into operation in the way laid down in the ordinary law. If anyone was considered to be a subject for the operation of the clause there would have to be two medical certificates, and the matter would have to be dealt with by the justices of the peace. When a person was put into an institution in that way it was always subject to the opinion of the Board of Control, and there was ample opportunity for revision. Full opportunity was given for patients to be discharged if they were cured or able to be discharged.

Mr. RHYS DAVIES said he knew a case where five children were feeble-minded. None of them had ever been taken away from home until one was found after a football match wandering in the streets and not able to find his way home. He was taken to an institution and remained there. He (Mr. Davies) thought that the other four would be better in an institution; but the parents were all right mentally, and they thought that the children were better under their care. If the Committee passed this clause, would it then be possible for the authorities to come into the home of these people and take their four children away from them without those four children committing any offence at all? He had a little fear on that score.

Sir K. WOOD: I do not look at the matter in that way. We must not wait until an offence is committed. The whole operation of this law and the present administration is to prevent offences being committed. We do not want to wait until unhappily one of these four children commits some of those offences of which we read in the newspapers.

Mr. DAVIES: Then you could put the whole community into an institution in that case?

Sir K. WOOD: No. The hon. Member overlooks the many provisions for the supervision and release of people of this kind. We do not want to break up families and remove children from their parents unless it is for the benefit of the children themselves. That is the idea which animates the administration of this Act, and therefore we could not possibly accept the amendment.

Mr. CHARLETON said he had a mentally defective boy who was even worse than the category under discussion. He knew scores of working-class families in the same position, and this clause would cause a great deal of trouble and anxiety to those people. He thought that it would be better if some safeguard were inserted in the clause.

Sir K. WOOD said that he was afraid he had not made the matter clear. The Mental Deficiency Act, 1913, provided that where the parent or guardian was not asking for the child to receive this care—

"the order shall not be made without the consent in writing of the parent or guardian unless it is proved to the satisfaction of the judicial authority that such consent is unreasonably withheld or that the parent or guardian cannot be found, but consent shall not be deemed to be unreasonably withheld, if withheld with *bona fide* intention of benefiting the defective."

The amendment was negatived.

Mr. CHARLETON moved in the substituted Subsection 1(*d*) to leave out the words "Moral defectives, that is to say."

He said he moved this formally in order to get some explanation of the meaning of these words.

Mr. RHYS DAVIES said that the persons to whom this Bill referred were divided into four categories—idiots, imbeciles, persons mentally defective, and cases of moral defectiveness. He was not arguing against these words, but they ought to have a clear understanding of the exact position. There was a feeling that this Bill introduced something new by declaring moral defectives as falling within the category of the cases provided for under the Act of 1913. He knew a case of a boy of 15 who committed an offence against a little girl 6 years of age. That case was brought before a court, and instead of the boy being sent to a reformatory school he was found to be mentally deficient and he had been shifted several times from one institution to another. He had been in communication with the medical officers of the institutions where the boy had been sent, and his opinion was that if the boy was not going to be in an institution for life he would be there for a very long time. It was rather terrible to contemplate the possibility of that boy being detained for five or ten years for a single offence of this kind. If he could get an explanation of the type of case to be dealt with under this paragraph he would be satisfied.

Sir K. WOOD said this amendment, taken together with another which stood on the amendment paper, would have the effect of confining paragraph (*d*) of Subsection (1) to encephalitis lethargica. Unfortunately a very large number of people suffered from a good many other things of an abnormal type. These people committed all sorts of unnatural offences which must be dealt with not only in their own interests, but in the interests of the community as a whole. It was not the offence which had to be considered, but whether in the person who was affected there existed mental defectiveness coupled with vicious or criminal propensities.

The amendment was withdrawn.

Clause 6 (which amends Sections 21 and 30 of the principal Act) reads as follows:—

(1) Section 21 of the principal Act (which relates to the central authority) shall have effect as if after the word "supervision" there were inserted the words "training" "occupation." (2) Section 30 of the principal Act (which relates to the general powers and duties of local authorities) shall have effect as though—(i) after paragraph (*c*) thereof there were inserted the following paragraph: (*cc*) to provide suitable training or occupation for defectives who are under supervision or guardianship or have been sent to certified institutions. (ii) in proviso (i) thereto there were substituted for the words "paragraphs (*b*), (*c*), (*d*), and (*g*)," the words "paragraphs (*b*), (*c*), (*cc*), (*d*), and (*g*); (iii) at the end thereof there were added the following proviso: (v) a local authority shall be under no obligation to provide training in the case of any defective under supervision if they satisfy the Board that there are in his case adequate reasons for not so doing.

Mr. CROMPTON WOOD moved in Subsection (2, iii, v), after the word "training" to insert the words "or occupation." Clause 6, he said, was one of the most important clauses in the Bill. The local authorities were responsible for the training and occupation of mental defectives after the age of 16, when they had left special schools. It was greatly in the interests of the poor part of the population that this training should be the duty of the community. When this matter was discussed with the county councils they agreed to accept this responsibility conditionally upon the insertion of Clause 5 (amendment of Section 11 of the principal Act), which was a rider to protect them from the obligation of providing training in the case of defectives under supervision if they satisfied the Board that there were adequate reasons for not doing so. They ought to have put in the rider the words "training or occupation." They had to consider cases occurring in country places where the defectives were far away from a place where training or occupation could be provided, and they must protect the county councils in cases of this sort. Those councils were accepting a great responsibility, and they must assist them by putting in these words.

The amendment was agreed to.

Sir K. WOOD moved the following new clause:—

If in any case in which, under Section 8 of the principal Act, a Court has directed a petition to be presented against any person and ordered that person to be detained pending the presentation of the petition and the adjudication thereof, it is found impracticable to present a petition or the petition is dismissed, then, unless the Court has otherwise ordered, that person shall, until he can again be brought before the Court, be dealt with as follows (that is to say): (*a*) If the place in which he is being detained under the order of the Court is a prison or a place of detention provided under Section 108 of the Children Act, 1908, he shall continue to be detained in that prison or place. (*b*) If the place in which he is being so detained is not a prison or such a place of detention as aforesaid, he shall be removed therefrom to a prison or, if he is a child or young person, to a place of detention, or if in the opinion of the Secretary of State it is inexpedient that he should be removed to a place of detention, then to such other place as the Secretary of State may by order direct.

He said that the difficulty was caused through a curious oversight in the drafting of the principal Act of 1913. Under Section 8 of that Act in certain circumstances a court of justice might postpone the passing of sentence on a defendant brought before it and direct that a petition should be presented to a judicial authority with a view to obtaining an order that the person should be sent to an institution for mental defectives or placed under guardianship and the court was empowered to order that the person be detained in such institution or place of safety for such time as was required. That was all very satisfactory and right, and the provision had worked smoothly, but the Home Office had had a number of cases where apparently no provision was made under the law, and where as a result of further observation and examination of the person the local authority had been unable to present the petition and send the person to an institution on the ground that the medical men agreed that it was not a case of defective mentality, but a case of the person being a criminal who ought to be dealt with by the Court which originally suggested that the petition should be presented. It was a curious thing that in that case apparently there was no provision at the present moment to detain that person and bring him back to the original court again. Paragraph (*a*) was provided with a view to making sure that in such a case such a person should not go free. Paragraph (*b*) was moved with the object of bringing the clause into line with the other provisions of the Children Act, which governed the placing of children in places of detention.

The clause was read a second time and added to the Bill.

Sir K. WOOD moved the following new clause:—

Every joint committee or joint board constituted under Section 29 of the principal Act shall be a body corporate by such name as the order constituting the committee (whether the order was made before or after the passing of this Act) may direct, and shall have perpetual succession and a common seal, and may hold land for the purpose of their powers and duties without licence in mortmain.

He explained that this clause was moved with the object of removing doubts and regularising the position of certain joint bodies who had been incorporated under Section 29 of the principal Act which empowered the Minister to make an order where two or more local authorities desired to join together in this way. It had been questioned whether the present law was sufficient for them to do so. Already five local authorities had found it convenient to administer the Act in this way, and at the present moment they had two further applications in that connexion.

The clause was read a second time and added to the Bill.

Mr. ELLIS moved the following new clause:—

"Section 44 of the principal Act (which relates to the determination of residence) shall be amended by the insertion therein after Subsection (2) of the following new Subsection:—(2*a*) Where the order is made by a judicial authority and is in respect of a person in an institution for lunatics, certified institution, approved home, or other public or charitable institution, that person shall for the purposes of the provisions of the last foregoing section be deemed to have resided in the place which was his place of residence immediately before he was received into the institution or home, and if for the purpose of or in connexion with his reception into the institution or home any place was determined to have been his place of residence, that determination shall be conclusive."

He said that the object of the clause was to settle financial responsibility as between two authorities. Under the old Act a very curious position was found to arise. In his constituency of Wakefield there was situated partly on the border and partly inside his constituency the asylum of the West Riding Authority. That asylum in consequence of the necessity of dealing with certain cases which were deemed to be mental deficients rather than lunatics had removed several of their patients to their residences. The place of residence appeared to be actually within the borough of Wakefield, and the effect had been to cast the financial responsibility for West Riding patients on to the borough. This clause was intended to make it clear what the place of residence was and to ensure that in the future mental deficients belonging to a particular place should be paid for by that place.

Sir K. WOOD said that he thought the case which had been raised by the hon. Member was one that ought to be dealt with, and he had therefore much pleasure in accepting the new clause.

Lieut.-Colonel FREMANTLE said that he had been asked to move an amendment to the clause on behalf of the London County Council. It was to insert at the end the words—

"Provided that for the purposes of this Subsection his place of residence shall be deemed to be (1) in the area of the County or County Borough in England and Wales."

Sir K. WOOD said that he would suggest that his hon. friend consulted with him later and that the matter should be dealt with on the report stage.

Lieut.-Colonel FREMANTLE said that he was quite prepared to do that.

The clause was read a second time and added to the Bill.

The Committee stage was concluded and the Bill, as amended, was ordered to be reported to the House.

HOUSE OF LORDS.

THURSDAY, JULY 7TH.

LIQUOR (POPULAR CONTROL) BILL.

THE debate was resumed on the second reading of the Liquor (Popular Control) Bill.

The Earl of DUNMORE said that the effect of the expenditure every year of £300,000,000 of our national wealth on intoxicating liquors, especially at a time when most of our industries were struggling with high taxation and other adverse circumstances, was very difficult to estimate. Its effect was probably to be seen in some of the most pressing political problems of the day. It certainly made the argument of some of their lordships, including Lord Dawson that this social evil of drink was a disappearing factor in our national life, seem to be hardly justified by facts. He thought that the Bishop of Liverpool came much nearer to the truth when he told the House that sooner or later the country would have to tackle this question, and that the only road to a solution of the problem lay in taking the trade out of private hands. He believed that this Bill gave a liberty for experiment to a large section of the electorate which was badly needed.

Earl RUSSELL said that at an earlier part of the debate they had one of those very interesting speeches which they got too seldom from Lord Dawson. As he had done on previous occasions, the noble lord had given a certain amount—he might almost say a considerable amount—of praise to the advantages of alcohol in civilised society, and he finished off in an almost lyrical passage by saying that it added to, and was to a large extent the cause of, the frolic and fun of the world. When he listened to those words he (Earl Russell) wondered for a moment whether their lordships had here a reincarnation of the Persian tentmaker, or perhaps of Dionysius, not at all the sort of figure which one would have normally associated with Lord Dawson. He was rather interested also to notice that later in his speech, when Lord Dawson came to deal with young soldiers at Aldershot, who went to the dry canteen and did not take liquor, he repeated, apparently with approval, what had been said to him by a general or a colonel to the effect that they were fine upstanding young men, and one could see at once by their faces that they did not take drink. These two propositions did not seem to him (Earl Russell) to be quite consistent. When one contemplated the enormous harm that was done in this country by the consumption of drink—the poverty which it entailed, the misery to which it so often gave rise, and the injury, small in many cases, no doubt, but constant, to the general health of the population, injury to which Lord Dawson bore unwitting tribute when he referred to those fine upstanding young men—it seemed to him very much to be regretted that such important leaders as a distinguished doctor and a right reverend Prelate (the Bishop of Durham) should use words which would be quoted outside without their context, and would give rise to the impression that people who were the guardians, the one of the public health, and the other of public morals, did not think that there was anything to be said against the consumption of alcohol. When they were considering this subject it was not enough to say that this or that remedy had not been sufficiently considered, or that it was financially unsound. If the majority of their lordships were really convinced that some legislative move in the direction of temperance was desirable, in addition to the educative move, then they must not merely submit a negative to Bills of this kind, but they had a duty to support or suggest some form of constructive proposal. It was for that reason that when they came to the division he would vote for the principle of some legislative action being taken, and for some consideration being given to this Bill and its details in Committee. The question of total prohibition, even in an area, was, he admitted, a very difficult one. He confessed that he did not like the principle of a compelled morality in any form, but if a sufficient majority in an area thought that prohibition was desirable it seemed to him that the experiment might be tried. He agreed that there had been an immense improvement in the sobriety, self-restraint, and self-control of the people, and he believed that it was still going on. Although it was doubtful whether they would accelerate it by total prohibition, still he felt that at least they need not retard it by the present system of flaunting opportunities of drink and pressing people to drink not only more than was good for them, but more than they wanted.

The Earl of BIRKENHEAD (Secretary of State for India) said that as he listened to Earl Russell he was confirmed in his view that the Government were right in their conclusion that they were unable to support the Bill. The Bill had been riddled on its financial side, as well as on its theological, moral, and sociological side. It was framed on a principle which must fail because it was anti-social. It was claimed that the Bill was democratic, but a more amazing pretension was never put forward. Its proposals were ill-conceived, confusedly thought out, financially unsound, and in absolute antagonism to the spirit and traditions of the British people. That spirit and those traditions had throughout the ages, and not unsuccessfully, proceeded on the basis that a great confidence might be reposed in the moderation and commonsense of the humble folk of this country, and that moral improvement was to be imposed on them not by coercion and not by sermons, but by trusting them and making them the judges and trustees of their own morality, and treating them as the responsible custodians of their own moral forces.

Lord BALFOUR OF BURLEIGH regretted that the Government had thought fit to put on the Whips against this measure. He would vote for the second reading of the Bill, and he hoped that a sufficient number of the supporters of the Government would go with him into the lobby to show the Government that there was a strong feeling in the party in favour of constructive proposals for temperance reform.

On a division the motion for the second reading was negatived by 144 votes to 36—majority against, 108.

TUESDAY, JULY 12TH.

Medical and Dentists Acts Amendment Bill.

Lord LOVAT introduced the Medical and Dentists Acts (Amendment) Bill, which was read a first time.

HOUSE OF COMMONS.

WEDNESDAY, JULY 6TH.

Hydroquinone and Lactic Acid.

Mr. FENBY asked the President of the Board of Trade if he was aware that the exemption orders applied for last year under Section 10 (5) of the Finance Act, 1926, in respect of hydroquinone and lactic acid B.P., being products liable to duty under Part I. of the Safeguarding of Industries Act, 1921, had not yet been issued; that his department were refusing to issue these exemption orders although the products in question were still not made in His Majesty's Dominions and that, in consequence, hospitals and other consumers of these products which had to be imported were compelled to pay at least one-third more than would otherwise be the case; and would he take steps to issue the exemption orders in question forthwith.—Sir P. CUNLIFFE-LISTER replied: An exemption order regarding hydroquinone was issued by the Treasury on June 23rd. Preparations for the manufacture in this country of B.P. lactic acid are well advanced, and the conditions for exemption laid down in Section 10 (5) of the Finance Act, 1926, are not therefore satisfied.

Post-vaccinal Encephalitis and Nervous Disease.

Mr. DAY asked the Minister of Health whether he would publish the full reports of the committee of inquiry which inquired into post-vaccinal encephalitis appointed by his department at the end of 1924.—Sir KINGSLEY WOOD replied: I assume that the hon. Member is referring to the committee appointed by one of my right hon. friend's predecessors in 1923. The terms of reference of that committee were limited to the consideration of the question whether any further experimental research could be initiated to throw light on the possibilities of vaccine lymph producing nervous diseases as a complication of vaccinia. The committee recommended that further research was desirable, and their report was referred to, and is under the consideration of, the Committee on Vaccination, which is now sitting. In these circumstances, my right hon. friend does not propose to consider the question of publishing the report of the committee appointed in 1923 until he has received a report from the present committee.

Mr. DAY: Is the hon. gentleman aware that this is referred to rather extensively on the Continent, and if that be so, does he not think it would be better to publish a report in this country?

Sir KINGSLEY WOOD: I think the hon. Member had better wait and see what the subcommittee do.

Food Adulteration.

Mr. DAY asked the Minister of Health the number of prosecutions instituted by his department, or by the inspectors under his control, for the adulteration of food for the 12 months ended to the last convenient date.—Mr. CHAMBERLAIN replied: Prosecutions in respect of the adulteration of food are not instituted by my department, but by local authorities and their officers. I am not in a position to state the total number of prosecutions undertaken in any period, but the reports which are sent to my department show that the number of samples of food taken in England and Wales during the 12 months ending on Dec. 31st, 1926, was 120,617, and that 7044 of these (or 5·8 per cent.) were found to be adulterated.

Dogs and the Public Health.

Sir G. COURTHOPE asked the Minister of Health whether his attention had been called to the increase in the number of dogs in urban areas and the consequent fouling of pavements and other public places; and whether he contemplated taking steps to reduce the number of dogs kept in towns in the interests of cleanliness and the public health.—Sir W. JOYNSON-HICKS (Home Secretary) replied: Yes, Sir. My attention was recently drawn to the increase in the number of dogs in London, and many local authorities have complained of the fouling of pavements. But any proposal to reduce the number of dogs would require legislation, and I am not sure that this would be supported by public opinion.

International Opium Convention.

Mr. CAMPBELL asked the Home Secretary which of the signatory Powers to the International Opium Convention of February, 1925, had deposited ratifications of that Convention; whether that Convention was now in force; and, if not, when it was likely to become operative.—Sir GEORGE HENNESSY replied: I understand that since the replies given to the hon. Member on Feb. 14th and Nov. 17th last, the Netherlands, Bulgaria, Czecho-Slovakia, and Poland have ratified the Convention. As stated in the reply of Nov. 17th, the Convention cannot come into force until the requisite number of ratifications prescribed in Article 36 have been deposited. H.M. Government have done their best to urge ratification by the other signatories.

Discovery of Girl's Body in Scotland.

Mr. SCRYMGEOUR asked the Secretary of State for Scotland whether he had completed his inquiries into the case of a girl reported to have been drowned, whose body was found at Invergowrie on June 12th; why the body was conveyed to the grave on a common lorry covered by sacking or tarpaulin, having been left till burial in an old shed; whether the cause of death was ascertained by a post-mortem examination; whether there was any evidence suggesting that the girl was under the influence of drink or drugged; why a photograph was not taken; and whether the police description gave details about the condition of her teeth, whether artificial or natural, and the value of her rings, if any.—Sir JOHN GILMOUR replied: I have obtained information on the points raised in the questions. I am informed that the body of the woman concerned was found on June 12th on the foreshore at Invergowrie, and was removed by the police to an unoccupied lockfast shed and examined by a doctor, who certified that death was due to drowning. The shed, according to my information, was suitable for the purposes of safety and decency, and also for purposes of identification. A description of the body and clothing was given by the police to the press and appeared in the newspapers. I am informed that the description did not give details about the teeth, which were natural and in good condition, but that it did refer to a ring worn by the deceased. A number of persons viewed the body but failed to identify it. The case was reported by the police to the Procurator-Fiscal, who reached the opinion that the case was one of suicide, and that there was nothing suspicious about it. A post-mortem examination in the form of dissection was not considered necessary. There was no evidence suggesting that the woman was under the influence of drink or had been drugged. A photograph was not taken because, in the opinion of the police, such a photograph would have been of no use for identification purposes in this case. After the Procurator-Fiscal was satisfied that there were no suspicious circumstances, the body was handed over to the sanitary authorities and buried on June 16th with the authority of a direction by a justice of the peace in accordance with Section 69, Subsection (1) of the Public Health (Scotland) Act, 1897. I am informed that the body was conveyed to the grave in a plain black coffin, carried on a lorry, and covered with an ordinary van cover. I see no reason for holding that proper steps were not taken in this case, but I think that the general question of taking a photograph for purposes of subsequent identification merits further consideration, and I propose to examine that question further in consultation with the Lord Advocate.

Insanitary Houses in Glasgow.

Mr. STEPHEN asked the Secretary of State for Scotland if, in view of the report of the condition of insanitary houses in Glasgow, he would consider the introduction of legislation to make it illegal for property owners to take rent for houses which had been declared unfit for human habitation by the sanitary authorities.—Sir JOHN GILMOUR replied: Local authorities already have statutory powers to deal with houses unfit for human habitation either by requiring the owners to make them habitable, or by closing and demolishing them. In the circumstances I am not prepared to consider the introduction of further legislation on the subject.

THURSDAY, JULY 7TH.

FINANCE BILL.

The House went into Committee on the Finance Bill, Captain FITZROY (Deputy Chairman of Committees) in the chair.

Mr. MACQUISTEN moved a new clause to provide that the duty on whisky should be reduced from its present figure of £3 12*s.* 6*d.* to £1 10*s.* He said that if he thought that this proposal would affect the revenue he would bring it forward with some diffidence in the present state of the country's finances; but he was satisfied if they sold whisky at 6*s.* per bottle instead of 12*s.* 6*d.* the consumption would be increased at least three times, and the Chancellor of the Exchequer would gain 90*s.* in place of his present 72*s.* 6*d.* As to the effect of whisky on the health of the people, that spirit was first invented by the clergy in the twelfth century, and at that time was largely used as medicine. They read of James V. giving so many bushels of barley to the monks of Dryburgh to make the "spirit medicine." Whisky was still very largely used as a medicine. It was a poison, but a slow poison, which killed the microbes of diseases. He remembered in 1918 an influenza epidemic taking place in a mine in South Africa with which he was connected, and during that epidemic they lost over 100 of their coloured labourers and none of the white staff. He said to the doctor: "You have a wonderful record in regard to the white workers, why could you not save the blacks?" and he replied: "I had not enough whisky to save the black men. By the time I had poured it down the whites there was very little left for the negroes, although a few of them were saved who got some for acting as undertakers." In 1920, when the Local Veto Bill was before Parliament, a police constable in the House of Commons said to him: "A dreadful thing is going to happen in Scotland. We live 50 miles away from a doctor and my mother always keeps a couple of bottles of whisky in the house. If any members of the family are taken ill they get half a bottle of whisky and they get better. We may not get it now."

Mr. JOHNSTON: Will the hon. Member explain why it is that insurance companies will insure a man's life at 10 per cent. less premium if he is a total abstainer?

Mr. MACQUISTEN said that those who insured their lives might give an undertaking to be total abstainers, but it never got any further than an undertaking. Continuing, the hon. Member said that out in the East there was a very large trade for whisky for sanitary reasons. It was a disinfectant, and everybody consumed it. There were no teetotallers there, because they all died very quickly. He expected that he would get from some of the members of the Labour Party stories as to the gaols and lunatic asylums which were being filled with drunkards. He was talking in the north to a leading alienist, and he put that question to him. The doctor replied: "It is all nonsense. Feeble-minded people take to drink because they are feeble-minded; they are not feeble-minded because they have a drink."

Mr. R. MCNEILL (Financial Secretary to the Treasury) said that he could give a very short answer to his hon. and learned friend. He was not called upon as representing the Treasury to go into the various questions as to the comparative values of whisky and other commodities. He looked at the thing from a purely financial point of view. This clause which Mr. Macquisten asked the Committee to accept would involve a loss to the Exchequer of something over £18,000,000. In order to neutralise the financial loss which this clause would entail to the Exchequer they would have to have an increase of 130 per cent. in consumption, and if his hon. and learned friend could be serious for two minutes, he asked him to consider seriously whether they could face with equanimity an increase of 130 per cent. in the consumption of whisky next year? He hoped that the Committee would silently pass a vote of thanks to Mr. Macquisten for his entertainment, and let them get on to something else.

The clause was negatived without a division.

Major HILLS moved a new clause allowing an income-tax payer to deduct from his income-tax assessment expenditure due to the confinement of his wife, including the fees of physicians and nurses, and other costs immediately attributable to the confinement. He said that the deduction he proposed would be allowed whatever might be the number of children in the family. It became an increasing benefit, not according to the wealth or position of the parent, but according to the number of the family. This was meant as an encouragement of children. The class at the bottom of the income-tax ladder was a very valuable class. It represented people on their way up in the world, and it was very important that they should be encouraged and produce children. The cost of confinement was a very heavy cost, and a bigger proportionate cost to parents with small incomes. Though parents with small incomes might not have an expensive doctor and nurse, the proportionate cost was much greater.

Mr. R. MCNEILL said he must resist the clause. He could not see any reason why Major Hills desired to move the clause, which seemed to be a sort of converse to birth control, for his purpose here was to encourage an increase in the population. However desirable it might be to do that, it was not the function of the Treasury.

Lieut.-Commander KENWORTHY: Why do we have children's allowances at all?

Mr. R. MCNEILL said that children's allowances were not made for the purpose of encouraging large families; they were made to enable the parent of the family to discharge his duty to the Government, which was quite a different thing. This clause was an encouragement to people to be very reckless in regard to the class of medical attendance, nursing and nursing homes, which they selected. They would go to a very fashionable ladies' doctor and a very fashionable neighbourhood, and take very expensive rooms in a nursing home in Cavendish-square, and all the expense of this his hon. friend wished, to a certain extent, to be borne by the State through a deduction from income-tax. He saw no reason whatever for that. Why, if a man was to be assisted in this way on account of the confinement of his wife, should he not get similar assistance in other illnesses, much more dangerous and probably more onerous from the financial point of view. He hoped the Committee would support the Government in refusing this request.

The clause was negatived without a division.

Sir F. MEYER moved a new clause to provide that licence-holders of off-licences should be permitted to sell half-bottles of spirits. He said that as the law stood at present anyone who desired to buy less than a bottle of whisky or a bottle of brandy or other spirits was obliged to go to a public-house. That seemed to him to be a very curious and anomalous law. The supposed justification for it was that on-licence holders paid a considerably higher rate of duty than the off-licence holder. There might have been some justification for this point of view in former days, but now, when whisky cost 12*s.* 6*d.* per bottle, and brandy anything from 15*s.* a bottle, and a half-bottle cost 7*s.* or more, no one could say that permission to go to the grocer or the wine merchant to buy half a bottle of spirits would encroach severely on the rights of the publican to sell small quantities for on- or off-consumption for which he paid a higher duty. It had also been argued that the present system was in favour of temperance. But it seemed to him a very curious suggestion as a temperance argument that people should be compelled either to buy more spirits than they intended from the off-licence holder, or alternatively should go to the public-house for what they wanted.

Mr. R. MCNEILL said that there was little or no evidence of a sense of grievance or any public demand for a change in this matter. He agreed that on-licence holders all over the country were keen to get this particular restriction swept away, but that did not amount to what was called public opinion. He had a deputation before him at the Treasury on this subject more than a year ago, and all sorts of reasons were put forward. One specially urged was that in time of genuine sickness very often a person was ordered a little brandy, and it was very hard lines if he could not get a small quantity at a grocer's shop, and had to submit to the indignity of going to a public-house for it. When he suggested to the deputation that it would be possible to meet their view by making an exception in the case of brandy, that was immediately swept away and he was told that brandy had no particular medicinal value. His well-meant effort to meet a grievance was swept away, and he did not find then, and he did not find now, that there was any real grievance of which they were entitled to complain. He did not suggest that this clause should be rejected on the ground of any loss of revenue. But everyone knew that there was no more thorny question than the licensing law, and men of all parties once they began to operate on the licensing laws would find themselves in all sorts of pitfalls and difficulties, and hornets' nests, which they would do much better to avoid. He would, however, promise to ask the Chancellor of the Exchequer to reconsider this matter before the report stage, and if his right hon. friend found that it was possible for him to do so, he would then come to a definite decision.

Dr. WATTS said that he was not concerned with the on- or off-licence; he was only concerned with the comfort of the people. Reference had been made in that debate to the value of whisky or brandy in the treatment of disease. When he was in active medical practice some years ago he met with numerous instances of difficulties which were entailed by the operation of the law which this clause sought to remove. He had seen in his practice in days gone by scores of people, as in the great influenza epidemic, whose lives were entirely saved by the free administration of whisky or brandy. He was speaking from experience. He had known poor people who in times of stress and illness had had reason to get a small quantity of spirits, but they had had to go to off-licence premises and pay for a whole bottle. When the crisis was over they had been left with a large quantity of whisky, and in their natural satisfaction they had consumed the whisky, he was sorry to say, in some cases with bad consequences.

Sir F. MEYER offered to withdraw the clause, but a division was insisted on by the Opposition.

The clause was negatived by 170 votes to 80.

Bursitis among Miners.

Mr. TINKER asked the Home Secretary if he was aware that the miners were protesting against the description in the recent order issued by him dealing with industrial diseases under the Workmen's Compensation Act, which contained the definition subcutaneous cellulitis or acute bursitis arising at or about the knee (beat knee), subcutaneous cellulitis or acute bursitis over the elbow (beat elbow), as they were of opinion that the word acute should be struck out; and would he give further consideration to this question.—Sir WILLIAM JOYNSON-HICKS replied: Before issuing this order I considered a request from the miners to omit the word "acute." This request, however, was not supported by any evidence, and as the report published by the Medical Research Council showed that bursitis is not a disabling condition except when there is acute inflammation, I was unable to adopt the suggestion. I have received no further representations, and see no grounds at present for reconsideration.

Small-pox in England and Wales.

Dr. VERNON DAVIES asked the Minister of Health the monthly return of the number of small-pox cases certified in England and Wales, including London, from January, 1927; and the number of districts in which these cases had occurred.—Mr. CHAMBERLAIN replied: The following is the answer:—

Small-pox Cases Notified in England and Wales.

Four weeks ended	Jan. 29th	.. ..	2178 cases.
Four ,, ,,	Feb. 27th	.. ..	1808 ,,
Five ,, ,,	April 2nd	.. ..	2170 ,,
Four ,, ,,	April 30th	.. ..	1364 ,,
Four ,, ,,	May 28th	.. ..	1202 ,,
Five ,, ,,	July 2nd	.. ..	1200 ,,

These cases occurred in 214 sanitary districts. The figures are subject to revision.

FRIDAY, JULY 8TH.

INDIAN MEDICAL SERVICE.

The House went into Committee of Supply on the Civil Service Estimates for 1927, Mr. JAMES HOPE, Chairman of Committees, in the chair.

On a vote of £74,834 for a contribution towards the cost of H.M. Secretary of State for India in Council, including a grant-in-aid,

Earl WINTERTON (Under Secretary for India) said that some of the Indian local authorities had performed their duties satisfactorily while others had not done so. Many Indians, including Mr. Gandhi, had drawn attention to the delinquencies of some of these local authorities. The point was—and he would emphasise this as strongly as he could—that a great deal of the health and welfare of the individual Indian depended on how those authorities did their work, and the results, whether they were good or bad, mainly depended on the efforts of Indians themselves. In these matters they had Swaraj now and that was a fact which they should always bear in mind when they were discussing health matters—water-supply and things of that kind. After dealing with improvements which had recently been made in the housing conditions in Calcutta and Bombay, the noble lord said that he had seen returns from employers throughout India and these, though incomplete, indicated that, excluding some railways and Government concerns generally, no fewer than 348,000 workers were housed by employers. Over 700 employers provided doctors and dispensaries and about 300 maintained schools for employees or their children. They all knew that the death-rate of children under a certain age was high in India compared with this country, but it was not so generally known that the death-rate in those cities had been steadily decreasing, and the critics of the Government and of employers in India usually found it convenient utterly to ignore the other factors which came into the question of the infant death-rate beside those of housing and economic conditions, such factors as customs and traditions of the people, the marriage age, and the like. Every impartial observer who went among the people, and every doctor who attended them, knew their influence. He had already said that these customs had incurred condemnation, and indeed, castigation of prominent Indians in the Assembly and elsewhere; he would leave it at that, for it was really a question for Indians to deal with themselves. In these matters the Government could only advise and reform, where advice and reform were likely to be accepted by the communities concerned. It would be quite wrong to suppose that in any eastern country there

was the same urge for any authority, Government or local, to act as there was in Westminster. Anyone who believed the contrary was believing something which was utter nonsense. He might refer to what had been done for social service by such institutions as the Social Service League of Bombay, run very largely by Indians. He knew most of the people who ran it and very good work had been done by them. He might refer to what had been done by dispensaries for the supply of medicine and things of that kind, but he could only say that a great deal had been done. As regarded the recruitment for the services, he was able to report that the improvement which he noted last year had been continued. It was moving upwards in a steady curve. Last year 93 Europeans entered for the Indian Civil Service examination and this year the number was 112. It was a satisfactory feature that a number of Europeans had chosen the Indian Civil Service in preference to a career in the Home Civil Service. As regarded the army, the position there was better than it was when he last had occasion to deal with these estimates. It had been slowly but steadily improving, though they were not yet in the same happy position as they were in the matter of recruitment for the Civil Service, and they were not yet getting as many young officers as they required to maintain the establishment of the Indian army. The whole position was being very carefully watched by the Government of India and the Secretary of State, and all necessary measures would be taken to ensure that the recruitment of the British officers in sufficient strength would be adequately maintained in the future.

Sir RICHARD LUCE raised the question of the Indian Medical Service. He said he gathered that the long negotiations and the long consideration of the future of that Service were now almost completed. It was now over three years since the Lee Commission on the superior services reported on those services, and although the findings of that commission were largely implemented with regard to the other services they were left on one side with regard to the Indian Medical Service. He wished to refer to what was the very unsatisfactory condition of the present recruitment of that Service. From certain figures which had been supplied to him he found that at the present time there was a loss in the last five years of British medical officers in the Indian Medical Service of 61. That was an average of 12 British medical officers per year for the last five years. The present strength of the British members of the Indian Medical Service was 489 and that of Indians 158, to whom must be added 138 temporary Indian medical officers, leaving the proportion 1·6 British to one Indian. He understood from his noble friend that it had been laid down that for the efficient working of the Indian Medical Service there should be at least a proportion of two British to one Indian officer, and with the yearly loss of 12 officers that proportion which was already reduced to 1·6 to 1 must very rapidly deteriorate. It was laid down by the Lee Commission that it was necessary to maintain the definite proportion in the Indian Medical Service of British to Indian officers for two very important purposes, one of which was that the European officers serving in India as members of the Indian Civil Service and their families should have the advantage of having British medical officers attending them when they were ill. That seemed to him important and it was the idea of the Lee Commission. It was one of the ideas for the carrying on of the Indian Medical Service by British officers. The other requirement that was necessary was that there should be a sufficient reserve of British officers for the Indian army. That reserve was called upon to its very last ounce in the Great War, and it was absolutely essential if they were going to have the Indian army serve with the British forces wherever that might be that they should have a sufficient proportion of British medical officers among them to bring about a proper state of efficiency in that Service. Therefore it seemed to him that they were in a position of very considerable gravity with regard to the Indian Medical Service at the present time. They had already a proportion of British to Indian officers which was considerably below the proportion which was considered necessary for the efficient work of that Service, and they had further a very rapid rate of diminution on that percentage.

With regard to what might be the causes of the unpopularity—which was quite obvious—of the Indian Medical Service he was not able to say. There was, however, at the present time an unwillingness on the part of young doctors to go into any service abroad. Whether that was due to the loss of the spirit of adventure, or whether that spirit had been exhausted by the Great War, he could not say, but the fact remained that they had a very great difficulty in getting into the medical service, whether in the Army, Navy, Air Force, or the Indian forces, suitable medical candidates. He had gone carefully into the question whether that could have any connexion with the rates of pay, or the conditions of service, but he did not believe that it was at all due to that cause. The pay in the Indian Medical Service and the conditions of the Service compared favourably with the conditions in the other medical services at home. He thought that the great cause, apart from the one to which he had referred, was the spirit of uncertainty as to the future of the Service which they were joining, and he believed that if steps could be taken to get over that uncertainty, which was due to the very long delay in bringing to completion the negotiations as to the future of the Service, confidence would be restored and there would be a considerable possibility of getting recruits in future. If a campaign could be undertaken by the Government at the present time, and if the Under Secretary himself would visit some of the hospitals or encourage some of the officials who happened to be at home to go to the various hospitals in England to show the students that there was an assured future—which he believed was the case—for young medical men who joined the Indian Medical Service, a great deal could be done to get over the difficulty and to ensure a satisfactory recruitment. If he would undertake that he was sure that the noble lord would receive the support of the whole of the medical profession in England who looked with grave disquiet upon the unsatisfactory state of the Indian Medical Service.

Progress was reported and the debate was adjourned.

MONDAY, JULY 11TH.

Pension Rights of Indian Provincial Officers.

Mr. WARDLAW-MILNE asked the Under Secretary of State for India whether, now that orders had been issued by certain of the local governments extending to certain of the provincial service officers of non-Asiatic domicile some of the concessions recommended in the Lee Commission report, the question of the extension of the concessions to include the right to retire on proportionate pension would be considered.—Earl WINTERTON replied: My noble friend is not prepared to extend the right to retire on proportionate pension beyond the All-India services to whom the premature retirement rules apply, but he has directed the Government of India to notify local governments that he will be prepared to consider on their merits, as cases falling outside the rules, applications for permission to retire prematurely from officers serving under local governments who either (1) were appointed by the Secretary of State in Council, or (2) were appointed by a subordinate authority, but in the local government's opinion are deserving of special consideration.

TUESDAY, JULY 12TH.

Experiments of Dr. Voronoff.

Sir ARCHIBALD SINCLAIR asked the Secretary of State for Scotland whether his attention had been drawn to the experiments of Dr. Voronoff, who claimed greatly to have increased the size of sheep and wool production by gland operations; and whether the Board of Agriculture proposed to make any inquiry into these claims.—Mr. MACROBERT (the Solicitor-General for Scotland) replied: Yes, Sir. My right hon. friend is aware of the work of Dr. Voronoff. The Ministry of Agriculture, in conjunction with the Board of Agriculture for Scotland, propose to carry out an expert investigation of these experiments during the autumn.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Capt. A. R. H. Skey to be Surg. Rear-Admiral, and is placed on the retired list.

Surg. Capt. H. C. Whiteside to be Surg. Rear-Admiral.

Surg. Comdr. P. D. Ramsay is placed on the retd. list with rank of Surg. Capt.

ROYAL ARMY MEDICAL CORPS.

ARMY DENTAL CORPS.

Lt. G. A. Ballantyne (Temp. Flying Offr., R.A.F.) to be Capt.

ARMY RESERVE OF OFFICERS.

Capt. S. Robertson relinquishes his commn., and retains the rank of Capt.

DENTAL OFFICERS IN THE ROYAL NAVY.

The undermentioned were successful in the competition, held on June 29th and succeeding days, for entry into the Royal Navy as Dental Officers, and will receive appointments as Acting Surgeon Lieutenants (D): Henry Arthur Ginn (Guy's Hospital), Harold Edward Rose (King's College Hospital), George Blackbarrow Fellows Reece (Royal Dental Hospital of London), Louis Victor Donegan (Incorporated Dental Hospital of Ireland), Herbert Vincent Pell (Royal Dental Hospital of London).

The King, on the occasion of the visit of the Duke and Duchess of York to New Zealand and Australia, has promoted Surg. Comdr. H. E. Y. White, M.V.O., O.B.E., R.N., Medical Adviser to His Royal Highness, to Commander of the Royal Victorian Order.

Medical News.

UNIVERSITY OF OXFORD.—At recent examinations the following candidates were successful in the undermentioned subjects :—

B.M. AND B.CH.

Medicine, Surgery and Obstetrics.—H. W. Allen, E. N. Butler, Rosalind V. Carruthers, C. Charleson, P. F. Cluver, C. L. Cope, W. N. Dickenson, J. L. Glover, R. C. Probyn-Williams, J. W. Pugh, and Irene M. Titcomb.

Pathology.—H. S. Atkinson, M. V. Bhajekar, B. R. Caygill, R. T. V. Clarke, T. L. Davies, S. B. Davis, A. J. Gibbs, H. P. Gilding, J. L. Glover, G. G. Hill, Florence H. Johnson, Caroline E. MacNeice, Q. St. L. Myles, R. C. Probyn-Williams, J. G. Reid, S. Segal, D. C. Shields, E. E. Swaby, W. J. Walter, and Joyce Wright.

Forensic Medicine and Hygiene.—D. H. Brinton, J. A. Brown, E. N. Butler, Rosalind V. Carruthers, T. L. Davies, S. B. Davis, J. L. Glover, G. G. Hill, A. P. Kingsley, R. L. P. Peregrine, and Irene M. Titcomb.

Materia Medica.—R. E. Adam, Annie Adams, G. Ashton, J. H. B. Beal, J. A. Brown, B. R. Caygill, J. L. Clapham, F. R. Crookes, W. T. Dawson, R. C. Garman, A. J. Gibbs, J. M. Gibson, T. N. Gledhill, W. H. Greany, R. M. J. Harper, H. M. Harris, A. L. Jacobs, J. M. Lees, W. H. McMenemey, G. B. Malone-Lee, W. H. Owles, J. H. Peel, J. G. Reid, C. R. Salkeld, D. C. Shields, and C. Wilson.

It is announced that John Hugh Bruce Beal, scholar of University College, has been elected to the Radcliffe Scholarship in Pharmacology, 1927.

The Theodore Williams Scholarship in Physiology has been awarded to A. L. Jacobs, Jesus College, and A. W. D. Leishman, University College, whilst the Theodore Williams Scholarship in Human Anatomy has been awarded to F. M. Trefusis, Exeter College, and M. W. C. Oldfield, University College. R. Pakenham Walsh, University College, receives the Welsh Memorial Prize for Anatomical Drawing.

UNIVERSITY OF ABERDEEN.—At a Graduation held on July 7th the following degrees and diplomas were conferred :—

D.Sc.—C. Reid, M.D., and J. Smith, M.D.

M.D.—•N. C. Simpson, J. T. Cameron, Maggie Florence Jane Moir, F. H. B. Norrie, H. G. Topping, and J. M. Whyte.

Ch.M.—M. M. Cruickshank.

• Awarded honours for thesis.

M.B. and Ch.B.—G. N. Clark, †G. M. Dean and ‡A. W. Forrest, Flora Leslie Baxter, W. J. Brenner, Frances Elizabeth Bruce, Joan Gordon Thain Dunbar, R. T. Easton, A. F. Emmanuel, W. H. Emslie, J. B. Ewen, A. D. Forgie, O. M. Fraser, A. J. Gardiner, H. B. Giles, H. R. Harris, A. W. Henderson, E. A. Johnston, W. E. Johnston, J. W. Lyall, L. C. Lyon, W. C. McIntosh, D. B. Mackenzie, Mary Meta Mackenzie, I. Mackintosh, R. G. A. McLaren, E. W. Malcolm, A. W. Michie, G. Milne, J. W. Mitchell, W. E. Morrison, M. van Niekerk, J. Pennie, D. C. Rice, J. A. G. F. Rose, J. A. Sharkey, ‡R. G. Spink, R. D. Stuart, M. G. de L'Isle Sturm, ‡A. E. Thomson, ‡J. G. Thomson, W. R. Topping, A. W. West, and W. M. Wilson.

D.P.H.—F. J. T. Bowie, S. V. van Niekerk, A. D. Rankin, Margaret Elizabeth Rankin, and W. D. Whamond.

† Completed Final Medical Professional Examination with much distinction.

‡ Completed Final Medical Professional Examination with distinction.

UNIVERSITY OF MANCHESTER.—Dr. H. B. Maitland has been appointed professor of bacteriology and director of the department of bacteriology and preventive medicine in succession to Prof. W. W. C. Topley.

Dr. Maitland graduated in medicine and surgery in the University of Toronto in 1916 and obtained the degree of M.D. by thesis in 1922. He qualified as M.R.C.S. Eng. in 1918. From 1917 to the end of 1918 he served in the Royal Navy as surgeon-lieutenant, and from 1919 to 1921 was lecturer in bacteriology in the University of Toronto. In 1921 he was appointed associate professor in that university and occupied this position until 1924. After six months spent in visits to the principal bacteriological departments in Germany, he was appointed early in 1925 to assist in the research upon foot-and-mouth disease, later taking charge of the investigations done for the Commission. He was subsequently elected to the staff of the Lister Institute, where he is at present engaged upon research.

At recent examinations the following candidates were successful :—

FINAL EXAMINATION FOR M.B. AND CH.B.

Dorothy Arning, H. Arstall, A. H. Baker, R. H. Barnes, R. H. Blackburn, Dorothy M. Bradley, H. J. Brennan, J. W. Brooks, Lillie M. Burton, Louie J. Burton, Muriel M. Edwards, J. S. Goller, A. Hancock, Zaky Hanna, † G. Metcalfe, R. Newton, G. L. Normington, R. P. Osborne, H. A. Palmer, L. C. Peringuey, † G. H. Racklyeft, Norah Regan, M. Robinson, Eleanor B. Schill, A. Thomas, R. H. Tootill, H. Townley, Vera Urmson, F. F. Waddy, G. R. Walker, Josephine Walmsley, and •K. H. Watkins (with second-class honours).

• Distinction in Medicine.

† Distinction in Forensic Medicine.

The following have satisfied the examiners in the undermentioned parts of the examination :—

Forensic Medicine.—S. K. Appleton, Doris Bernard, R. Edmondson, and J. H. Jones.

Hygiene and Preventive Medicine.—R. S. Abraham, S. K. Appleton.

Obstetrics and Surgery.—S. K. Appleton, H. J. Brennan, E. H. Brooks, Agnes M. Buckley, E. Cretney, E. B. Davies, Mary G. Davies, Dorothy Guest, G. B. Hardman, Amy H. Herbert, J. A. Longworth, Jean M. Marshall, J. W. Murray, J. R. Nuttall, J. F. O'Grady, S. L. Rowley, Lucy Stokoe, A. Thomas, R. H. Tootill, Vera Urmson, J. Vine, and G. R. Walker.

Obstetrics.—D. E. Francis and Kathleen McGowan.

THIRD EXAMINATION FOR M.B. AND CH.B.

Pathology.—W. S. Ramsden.

Pharmacology.—W. W. Fox and A. Taylor.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

Mary C. Luff.

DIPLOMA IN BACTERIOLOGY.

N. A. Arnold, Phyllis M. Congdon, Margaret Pownall, W. Smith.

DIPLOMA IN PUBLIC HEALTH.

Part I.—W. C. V. Brothwood, J. Cumming, Miriam Florentin, T. S. Hanlin, H. Harrison, Fanny Howe, M. V. Menon, T. Pierson, Marjorie Reekie, and S. P. Wilson.

UNIVERSITY OF LIVERPOOL.—At recent examinations the following candidates were successful :—

M.D.

W. Emdin, S. M. Katz, and J. A. Scott.

M.B. AND CH.B. (WITH HONOURS).

Class I.—W. S. Brindle, J. McHugh, S. P. Meadows, and A. D. Polonsky.

Class II.—J. K. Cameron, A. Dodd, P. H. Whitaker, and R. L. Wynne.

FINAL EXAMINATION FOR M.B. AND CH.B.

Part III.—T. Blezard, J. H. Boultbee, H. C. Calvey, K. M. Cobban, E. Cohen, F. R. Craddock, W. J. Eastwood, L. S. Goldman, J. G. Hattingh, H. E. Hughes-Davies, E. D. Irvine, O. V. Jones, Theresa J. Lee, J. L. Lewis, F. E. Lomas, J. W. Melville, E. P. Moloney, Edna Morris, C. Rigby, N. W. Riley, J. B. Rushton, Alfreda H. Slater, V. J. M. Taylor, J. P. Thomas, D. P. de Villiers, A. J. Walsh, and E. N. Wardle.

Part II.—S. Alstead, E. T. Bates, R. K. Bowes, J. H. St. B. Crosby, T. B. Davie, R. Doyle, H. R. Dugdale, J. P. Flanagan, J. H. Follows, Agnes G. Gillespie, R. G. Gornall, E. W. Jones, Mary G. Jones, W. E. J. Jones, N. R. Lawrie, J. M. Leggate, H. Leiper, J. S. Mather, C. T. Mercer, Winifred O'Callaghan, H. Paterson, E. L. Rubin, H. W. Smith, G. G. Warburton, and F. J. Welton.

Part I.—A. E. Adams, S. W. Adler, A. E. Carrol, E. Cook, J. E. Jones, N. W. Roberts, G. A. Talwrn-Jones, and A. L. Williams.

DIPLOMA IN PUBLIC HEALTH.

Eudora V. Beatty, Helen S. H. Brown, M. S. Grutu, R. C. Gubbins, and Isabel McKee.

DIPLOMA IN TROPICAL HYGIENE.

C. P. Allen, G. A. Dunlop, J. Harkness, R. Hay, Kathleen Hyslop, J. Macdonald, A. J. Murray, H. M. Nevin, and R. Walkingshaw.

UNIVERSITY OF LONDON.—At a meeting of the Senate held on June 22nd it was resolved to institute an academic diploma in bacteriology, the regulations for which may be had from the Academic Registrar.—The University studentship in physiology for 1927–28 was awarded to Mr. H. B. A. R. Densham, B.Sc., of Guy's Hospital, who proposes to complete his medical course and to continue investigations on the circulation through the skin and on cardiac dyspnœa which he is carrying out under the direction of Prof. Pembrey.—The University medal at the M.B., B.S. examination held in May, 1927, has been awarded to Max Barer, of University College Hospital.—Applications are invited for the William Julius Mickle Fellowship, of the value of at least £200, which is awarded annually to the man or woman who, being resident in London and a graduate of the University, has in the opinion of the Senate, done most to advance medical art or science within the preceding five years. Applications must be made in form to the Principal Officer of the University not later than Oct. 1st.

University College.—In connexion with the centenary of University College a fund of £500,000 is being raised to meet the need for further endowment, and for buildings and equipment. The amount raised up to June 18th is £117,440, which includes about £43,000 contributed by past and present students, and a grant of £25,000 by the Rockefeller Foundation for the endowment of the Department of Pharmacology. The same Foundation has also allocated £93,178 to form a further endowment fund, supplementary to that of 1921, for the Departments of Anatomy and Physiology, the work and progress of which have necessitated a larger expenditure than was anticipated in 1921.

was the same urge for any authority, Government or local, to act as there was in Westminster. Anyone who believed the contrary was believing something which was utter nonsense. He might refer to what had been done for social service by such institutions as the Social Service League of Bombay, run very largely by Indians. He knew most of the people who ran it and very good work had been done by them. He might refer to what had been done by dispensaries for the supply of medicine and things of that kind, but he could only say that a great deal had been done. As regarded the recruitment for the services, he was able to report that the improvement which he noted last year had been continued. It was moving upwards in a steady curve. Last year 93 Europeans entered for the Indian Civil Service examination and this year the number was 112. It was a satisfactory feature that a number of Europeans had chosen the Indian Civil Service in preference to a career in the Home Civil Service. As regarded the army, the position there was better than it was when he last had occasion to deal with these estimates. It had been slowly but steadily improving, though they were not yet in the same happy position as they were in the matter of recruitment for the Civil Service, and they were not yet getting as many young officers as they required to maintain the establishment of the Indian army. The whole position was being very carefully watched by the Government of India and the Secretary of State, and all necessary measures would be taken to ensure that the recruitment of the British officers in sufficient strength would be adequately maintained in the future.

Sir RICHARD LUCE raised the question of the Indian Medical Service. He said he gathered that the long negotiations and the long consideration of the future of that Service were now almost completed. It was now over three years since the Lee Commission on the superior services reported on those services, and although the findings of that commission were largely implemented with regard to the other services they were left on one side with regard to the Indian Medical Service. He wished to refer to what was the very unsatisfactory condition of the present recruitment of that Service. From certain figures which had been supplied to him he found that at the present time there was a loss in the last five years of British medical officers in the Indian Medical Service of 61. That was an average of 12 British medical officers per year for the last five years. The present strength of the British members of the Indian Medical Service was 489 and that of Indians 158, to whom must be added 138 temporary Indian medical officers, leaving the proportion 1·6 British to one Indian. He understood from his noble friend that it had been laid down that for the efficient working of the Indian Medical Service there should be at least a proportion of two British to one Indian officer, and with the yearly loss of 12 officers that proportion which was already reduced to 1·6 to 1 must very rapidly deteriorate. It was laid down by the Lee Commission that it was necessary to maintain the definite proportion in the Indian Medical Service of British to Indian officers for two very important purposes, one of which was that the European officers serving in India as members of the Indian Civil Service and their families should have the advantage of having British medical officers attending them when they were ill. That seemed to him important and it was the idea of the Lee Commission. It was one of the ideas for the carrying on of the Indian Medical Service by British officers. The other requirement that was necessary was that there should be a sufficient reserve of British officers for the Indian army. That reserve was called upon to its very last ounce in the Great War, and it was absolutely essential if they were going to have the Indian army serve with the British forces wherever that might be that they should have a sufficient proportion of British medical officers among them to bring about a proper state of efficiency in that Service. Therefore it seemed to him that they were in a position of very considerable gravity with regard to the Indian Medical Service at the present time. They had already a proportion of British to Indian officers which was considerably below the proportion which was considered necessary for the efficient work of that Service, and they had further a very rapid rate of diminution on that percentage.

With regard to what might be the causes of the unpopularity—which was quite obvious—of the Indian Medical Service he was not able to say. There was, however, at the present time an unwillingness on the part of young doctors to go into any service abroad. Whether that was due to the loss of the spirit of adventure, or whether that spirit had been exhausted by the Great War, he could not say, but the fact remained that they had a very great difficulty in getting into the medical service, whether in the Army, Navy, Air Force, or the Indian forces, suitable medical candidates. He had gone carefully into the question whether that could have any connexion with the rates of pay, or the conditions of service, but he did not believe that it was at all due to that cause. The pay in the Indian Medical Service and the conditions of the Service compared favourably with the conditions in the other medical services at home. He thought that the great cause, apart from the one to which he had referred, was the spirit of uncertainty as to the future of the Service which they were joining, and he believed that if steps could be taken to get over that uncertainty, which was due to the very long delay in bringing to completion the negotiations as to the future of the Service, confidence would be restored and there would be a considerable possibility of getting recruits in future. If a campaign could be undertaken by the Government at the present time, and if the Under Secretary himself would visit some of the hospitals or encourage some of the officials who happened to be at home to go to the various hospitals in England to show the students that there was an assured future—which he believed was the case—for young medical men who joined the Indian Medical Service, a great deal could be done to get over the difficulty and to ensure a satisfactory recruitment. If he would undertake that he was sure that the noble lord would receive the support of the whole of the medical profession in England who looked with grave disquiet upon the unsatisfactory state of the Indian Medical Service.

Progress was reported and the debate was adjourned.

MONDAY, JULY 11TH.

Pension Rights of Indian Provincial Officers.

Mr. WARDLAW-MILNE asked the Under Secretary of State for India whether, now that orders had been issued by certain of the local governments extending to certain of the provincial service officers of non-Asiatic domicile some of the concessions recommended in the Lee Commission report, the question of the extension of the concessions to include the right to retire on proportionate pension would be considered.—Earl WINTERTON replied: My noble friend is not prepared to extend the right to retire on proportionate pension beyond the All-India services to whom the premature retirement rules apply, but he has directed the Government of India to notify local governments that he will be prepared to consider on their merits, as cases falling outside the rules, applications for permission to retire prematurely from officers serving under local governments who either (1) were appointed by the Secretary of State in Council, or (2) were appointed by a subordinate authority, but in the local government's opinion are deserving of special consideration.

TUESDAY, JULY 12TH.

Experiments of Dr. Voronoff.

Sir ARCHIBALD SINCLAIR asked the Secretary of State for Scotland whether his attention had been drawn to the experiments of Dr. Voronoff, who claimed greatly to have increased the size of sheep and wool production by gland operations; and whether the Board of Agriculture proposed to make any inquiry into these claims.—Mr. MACROBERT (the Solicitor-General for Scotland) replied: Yes, Sir. My right hon. friend is aware of the work of Dr. Voronoff. The Ministry of Agriculture, in conjunction with the Board of Agriculture for Scotland, propose to carry out an expert investigation of these experiments during the autumn.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Capt. A. R. H. Skey to be Surg. Rear-Admiral, and is placed on the retired list.

Surg. Capt. H. C. Whiteside to be Surg. Rear-Admiral.

Surg. Comdr. P. D. Ramsay is placed on the retd. list with rank of Surg. Capt.

ROYAL ARMY MEDICAL CORPS.

ARMY DENTAL CORPS.

Lt. G. A. Ballantyne (Temp. Flying Offr., R.A.F.) to be Capt.

ARMY RESERVE OF OFFICERS.

Capt. S. Robertson relinquishes his commn., and retains the rank of Capt.

DENTAL OFFICERS IN THE ROYAL NAVY.

The undermentioned were successful in the competition, held on June 29th and succeeding days, for entry into the Royal Navy as Dental Officers, and will receive appointments as Acting Surgeon Lieutenants (D): Henry Arthur Ginn (Guy's Hospital), Harold Edward Rose (King's College Hospital), George Blackbarrow Fellows Reece (Royal Dental Hospital of London), Louis Victor Donegan (Incorporated Dental Hospital of Ireland), Herbert Vincent Pell (Royal Dental Hospital of London).

The King, on the occasion of the visit of the Duke and Duchess of York to New Zealand and Australia, has promoted Surg. Comdr. H. E. Y. White, M.V.O., O.B.E., R.N., Medical Adviser to His Royal Highness, to Commander of the Royal Victorian Order.

Medical News.

UNIVERSITY OF OXFORD.—At recent examinations the following candidates were successful in the undermentioned subjects :—

B.M. AND B.CH.

Medicine, Surgery and Obstetrics.—H. W. Allen, E. N. Butler, Rosalind V. Carruthers, C. Charleson, P. F. Cluver, C. L. Cope, W. N. Dickenson, J. L. Glover, R. C. Probyn-Williams, J. W. Pugh, and Irene M. Titcomb.

Pathology.—H. S. Atkinson, M. V. Bhajekar, B. R. Caygill, R. T. V. Clarke, T. L. Davies, S. B. Davis, A. J. Gibbs, H. P. Gilding, J. L. Glover, G. G. Hill, Florence H. Johnson, Caroline E. MacNeice, Q. St. L. Myles, R. C. Probyn-Williams, J. G. Reid, S. Segal, D. C. Shields, E. E. Swaby, W. J. Walter, and Joyce Wright.

Forensic Medicine and Hygiene.—D. H. Brinton, J. A. Brown, E. N. Butler, Rosalind V. Carruthers, T. L. Davies, S. B. Davis, J. L. Glover, G. G. Hill, A. P. Kingsley, R. L. P. Peregrine, and Irene M. Titcomb.

Materia Medica.—R. E. Adam, Annie Adams, G. Ashton, J. H. B. Beal, J. A. Brown, B. R. Caygill, J. L. Clapham, F. R. Crookes, W. T. Dawson, R. C. Garman, A. J. Gibbs, J. M. Gibson, T. N. Gledhill, W. H. Greany, R. M. J. Harper, H. M. Harris, A. L. Jacobs, J. M. Lees, W. H. McMenemey, G. B. Malone-Lee, W. H. Owles, J. H. Peel, J. G. Reid, C. R. Salkeld, D. C. Shields, and C. Wilson.

It is announced that John Hugh Bruce Beal, scholar of University College, has been elected to the Radcliffe Scholarship in Pharmacology, 1927.

The Theodore Williams Scholarship in Physiology has been awarded to A. L. Jacobs, Jesus College, and A. W. D. Leishman, University College, whilst the Theodore Williams Scholarship in Human Anatomy has been awarded to F. M. Trefusis, Exeter College, and M. W. C. Oldfield, University College. R. Pakenham Walsh, University College, receives the Welsh Memorial Prize for Anatomical Drawing.

UNIVERSITY OF ABERDEEN.—At a Graduation held on July 7th the following degrees and diplomas were conferred :—

D.Sc.—C. Reid, M.D., and J. Smith, M.D.

M.D.—•N. C. Simpson, J. T. Cameron, Maggie Florence Jane Moir, F. H. B. Norrie, H. G. Topping, and J. M. Whyte.

Ch.M.—M. M. Cruickshank.

• Awarded honours for thesis.

M.B. and Ch.B.—G. N. Clark, †G. M. Dean and ‡A. W. Forrest, Flora Leslie Baxter, W. J. Brenmer, Frances Elizabeth Bruce, Joan Gordon Thain Dunbar, R. T. Easton, A. F. Emmanuel, W. H. Emslie, J. B. Ewen, A. D. Forgie, O. M. Fraser, A. J. Gardiner, H. B. Giles, H. R. Harris, A. W. Henderson, E. A. Johnston, W. E. Johnston, J. W. Lyall, L. C. Lyon, W. C. McIntosh, D. B. Mackenzie, Mary Meta Mackenzie, I. Mackintosh, R. G. A. McLaren, E. W. Malcolm, A. W. Michie, G. Milne, J. W. Mitchell, W. E. Morrison, M. van Niekerk, J. Pennie, D. C. Rice, J. A. G. F. Rose, J. A. Sharkey, ‡R. G. Spink, R. D. Stuart, M. G. de L'Isle Sturm, ‡A. E. Thomson, ‡J. G. Thomson, W. R. Topping, A. W. West, and W. M. Wilson.

D.P.H.—F. J. T. Bowie, S. V. van Niekerk, A. D. Rankin, Margaret Elizabeth Rankin, and W. D. Whamond.

† Completed Final Medical Professional Examination with much distinction.

‡ Completed Final Medical Professional Examination with distinction.

UNIVERSITY OF MANCHESTER.—Dr. H. B. Maitland has been appointed professor of bacteriology and director of the department of bacteriology and preventive medicine in succession to Prof. W. W. C. Topley.

Dr. Maitland graduated in medicine and surgery in the University of Toronto in 1916 and obtained the degree of M.D. by thesis in 1922. He qualified as M.R.C.S. Eng. in 1918. From 1917 to the end of 1918 he served in the Royal Navy as surgeon-lieutenant, and from 1919 to 1921 was lecturer in bacteriology in the University of Toronto. In 1921 he was appointed associate professor in that university and occupied this position until 1924. After six months spent in visits to the principal bacteriological departments in Germany, he was appointed early in 1925 to assist in the research upon foot-and-mouth disease, later taking charge of the investigations done for the Commission. He was subsequently elected to the staff of the Lister Institute, where he is at present engaged upon research.

At recent examinations the following candidates were successful :—

FINAL EXAMINATION FOR M.B. AND CH.B.

Dorothy Arning, H. Arstall, A. H. Baker, R. H. Barnes, R. H. Blackburn, Dorothy M. Bradley, H. J. Brennan, J. W. Brooks, Lillie M. Burton, Louie J. Burton, Muriel M. Edwards, J. S. Goller, A. Hancock, Zaky Hanna, † G. Metcalfe, R. Newton, G. L. Normington, R. P. Osborne, H. A. Palmer, L. C. Peringuey, † G. H. Racklyeft, Norah Regan, M. Robinson, Eleanor B. Schill, A. Thomas, R. H. Tootill, H. Townley, Vera Urmson, F. F. Waddy, G. R. Walker, Josephine Walmsley, and •K. H. Watkins (with second-class honours).

• Distinction in Medicine.

† Distinction in Forensic Medicine.

The following have satisfied the examiners in the undermentioned parts of the examination :—

Forensic Medicine.—S. K. Appleton, Doris Bernard, R. Edmondson, and J. H. Jones.

Hygiene and Preventive Medicine.—R. S. Abraham, S. K. Appleton.

Obstetrics and Surgery.—S. K. Appleton, H. J. Brennan, E. H. Brooks, Agnes M. Buckley, E. Cretney, E. B. Davies, Mary G. Davies, Dorothy Guest, G. B. Hardman, Amy H. Herbert, J. A. Longworth, Jean M. Marshall, J. W. Murray, J. R. Nuttall, J. F. O'Grady, S. L. Rowley, Lucy Stokoe, A. Thomas, R. H. Tootill, Vera Urmson, J. Vine, and G. R. Walker.

Obstetrics.—D. E. Francis and Kathleen McGowan.

THIRD EXAMINATION FOR M.B. AND CH.B.

Pathology.—W. S. Ramsden.

Pharmacology.—W. W. Fox and A. Taylor.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

Mary C. Luff.

DIPLOMA IN BACTERIOLOGY.

N. A. Arnold, Phyllis M. Congdon, Margaret Pownall, W. Smith.

DIPLOMA IN PUBLIC HEALTH.

Part I.—W. C. V. Brothwood, J. Cumming, Miriam Florentin, T. S. Hanlin, H. Harrison, Fanny Howe, M. V. Menon, T. Pierson, Marjorie Reekie, and S. P. Wilson.

UNIVERSITY OF LIVERPOOL.—At recent examinations the following candidates were successful :—

M.D.

W. Emdin, S. M. Katz, and J. A. Scott.

M.B. AND CH.B. (WITH HONOURS).

Class I.—W. S. Brindle, J. McHugh, S. P. Meadows, and A. D. Polonsky.

Class II.—J. K. Cameron, A. Dodd, P. H. Whitaker, and R. L. Wynne.

FINAL EXAMINATION FOR M.B. AND CH.B.

Part III.—T. Blezard, J. H. Boultbee, H. C. Calvey, K. M. Cobban, E. Cohen, F. R. Craddock, W. J. Eastwood, L. S. Goldman, J. G. Hattingh, H. E. Hughes-Davies, E. D. Irvine, O. V. Jones, Theresa J. Lee, J. L. Lewis, F. E. Lomas, J. W. Melville, E. P. Moloney, Edna Morris, C. Rigby, N. W. Riley, J. B. Rushton, Alfreda H. Slater, V. J. M. Taylor, J. P. Thomas, D. P. de Villiers, A. J. Walsh, and E. N. Wardle.

Part II.—S. Alstead, E. T. Bates, R. K. Bowes, J. H. St. B. Crosby, T. B. Davie, R. Doyle, H. R. Dugdale, J. P. Flanagan, J. H. Follows, Agnes G. Gillespie, R. G. Gornall, E. W. Jones, Mary G. Jones, W. E. J. Jones, N. R. Lawrie, J. M. Leggate, H. Leiper, J. S. Mather, C. T. Mercer, Winifred O'Callaghan, H. Paterson, E. L. Rubin, H. W. Smith, G. G. Warburton, and F. J. Welton.

Part I.—A. E. Adams, S. W. Adler, A. E. Carrol, E. Cook, J. E. Jones, N. W. Roberts, G. A. Talwrn-Jones, and A. L. Williams.

DIPLOMA IN PUBLIC HEALTH.

Eudora V. Beatty, Helen S. H. Brown, M. S. Grutu, R. C. Gubbins, and Isabel McKee.

DIPLOMA IN TROPICAL HYGIENE.

C. P. Allen, G. A. Dunlop, J. Harkness, R. Hay, Kathleen Hyslop, J. Macdonald, A. J. Murray, H. M. Nevin, and R. Walkingshaw.

UNIVERSITY OF LONDON.—At a meeting of the Senate held on June 22nd it was resolved to institute an academic diploma in bacteriology, the regulations for which may be had from the Academic Registrar.—The University studentship in physiology for 1927–28 was awarded to Mr. H. B. A. R. Densham, B.Sc., of Guy's Hospital, who proposes to complete his medical course and to continue investigations on the circulation through the skin and on cardiac dyspnœa which he is carrying out under the direction of Prof. Pembrey.—The University medal at the M.B., B.S. examination held in May, 1927, has been awarded to Max Barer, of University College Hospital.—Applications are invited for the William Julius Mickle Fellowship, of the value of at least £200, which is awarded annually to the man or woman who, being resident in London and a graduate of the University, has in the opinion of the Senate, done most to advance medical art or science within the preceding five years. Applications must be made in form to the Principal Officer of the University not later than Oct. 1st.

University College.—In connexion with the centenary of Universty College a fund of £500,000 is being raised to meet the need for further endowment, and for buildings and equipment. The amount raised up to June 18th is £117,440, which includes about £43,000 contributed by past and present students, and a grant of £25,000 by the Rockefeller Foundation for the endowment of the Department of Pharmacology. The same Foundation has also allocated £93,178 to form a further endowment fund, supplementary to that of 1921, for the Departments of Anatomy and Physiology, the work and progress of which have necessitated a larger expenditure than was anticipated in 1921.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the annual election of Fellows into the Council held on July 7th, the President, Sir Berkeley Moynihan, presiding, there were nine candidates for three vacancies. The following is the result of the election: Sir Cuthbert Wallace (489 votes) and Mr. William Thelwell Thomas, M.B.E. (475) votes, were re-elected, and Mr. Hugh Lett (366 votes) was elected a member of the Council. The unsuccessful candidates were: Mr. L. P. Gamgee (344 votes), Mr. C. C. Choyce (328 votes), Sir Crisp English (314 votes), Mr. J. P. Lockhart-Mummery (224 votes), Mr. H. J. Paterson (158 votes), and Mr. H. W. Carson (153 votes). Mr. H. J. Price and Mr. Wilmott Evans acted as scrutineers.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—A reception was held at the College on Friday evening, July 8th, in celebration of the centenary of the discovery of Bright's disease. The President, with Lady (Rose) Bradford, received the guests in the library, among whom were the official representatives of the various countries present in London to do honour to Bright's memory. In the theatre an interesting exhibition was given of cinematograph films by the Provincial Cinematograph Theatres, Ltd., the films provided being demonstrations in natural history, such as the evolution of the caddis and may-flies, the life story of a puss-moth, and the life contents of a wineglass aquarium. Refreshments were served in the reading-room, and the College was crowded till a late hour.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—On Friday, July 22nd, at 5 P.M., at the Royal Westminster Ophthalmic Hospital, Mr. W. H. McMullen will give a lecture-demonstration on Some Causes and Effects of Defective Vision in Children. This will be free to all members of the medical profession. During August there will be two special courses. The first, at the Infants Hospital, Vincent-square, will be from August 8th to 21st, from 2 P.M. daily, in Diseases of Infants. On both Saturdays and one Sunday special visits have been arranged. (Fee for the course, £3 3s.) The second course, from August 29th to Sept. 10th, will be held at the Queen Mary's Hospital for the East End, Stratford, and will occupy most days from 10 A.M. to 5 P.M. It will include demonstrations of medical, surgical, orthopædic, ophthalmic, obstetric, and ear, nose, and throat cases, besides operations and lectures. (Fee, £3 3s., or £2 2s. for either week.) Besides these special courses, there is always the general course of work in the associated hospitals. For this a comprehensive ticket is issued for any period from one week to one year, and the post-graduate is left to make up his time-tables from the programme of clinics given. Copies of all syllabuses are obtainable from the Secretary of the Fellowship at 1, Wimpole-street, London, W., who can supply information on post-graduate work in London and the provinces.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.—At a recent meeting of the trustees, Dr. H. H. Dale, secretary of the Royal Society, was appointed a member of the advisory board in place of the late Prof. E. H. Starling. Sir James Kingston Fowler (hon. secretary) presented the annual report, in which reference was made to the increase of the annual value of the Fellowships announced last March. As from Oct. 1st, their value will be: Junior Fellowships, £400; Fourth Year Fellowships, £500; and Senior Fellowships, £700. Mention was also made of the trustees' decision to institute a Research Fellowship in Tropical Medicine of the annual value of £1000 and tenable for five years. This has been awarded to Mr. Edward Hindle, Ph.D., who was an original Beit Fellow (1910–12) and served with the Kala-azar Commission of the Royal Society to North China (1925–27). He will work on spirochætosis, with special reference to the causation of yellow fever. A Junior Fellowship in Tropical Medicine has been awarded to Dr. Henry Pollard Hacker, who will work on problems in the prevention of malaria. Mr. Alan Sterling Parkes, Ph.D., Miss Honor Bridget Fell, Ph.D., and Miss Margaret Averil Boas, Ph.D., have been promoted from Junior Fellowships to Fourth Year Fellowships, and Mr. William Kershaw Slater, M.Sc., has been promoted from a Fourth Year to a Senior Fellowship. The following appointments to Junior Fellowships are announced for research in the subjects indicated: Frank Robert Winton, M.D. Camb., assistant to the Department of Pharmacology, University College, London: (*a*) Urinary secretion; (*b*) Physiology of plain muscle. Walter Reginald Wooldridge, M.R.C.V.S., Frank Smart Student at the Sir William Dunn Institute, Cambridge: Bacterial chemistry in relation to immunity. Walter Thomas James Morgan, M.Sc., Biochemical Research Student at the Lister Institute, London: Structure of hexose phosphoric acids. Philip Eggleton, M.Sc. (University College, London), working for the Medical Research Council: Carbohydrate metabolism of contractile tissues; comparison of different types of contractile tissue. Guy Frederic Marrian, M.Sc., assistant in Department of Physiology, University College, London: Vitamin B; the adrenal glands. Archibald Roderick Fee, B.A., engaged in research at University College, London: Renal metabolism. Mr. Francis William Rogers Brambell, who was nominated for a Fellowship, withdrew shortly before the election, having received an offer of a teaching post at a university.

Correspondence concerning the Fund should be addressed to the hon. secretary, Beit Memorial Fellowship, 35, Clarges-street, London, W.1.

MANCHESTER ROYAL INFIRMARY.—The James Bathgate Dickinson Scholarships have been awarded to Dr. R. W. Fairbrother (Travelling Research Scholarship in Medicine), Dr. F. H. Smirk (Scholarship in Pathology), and Dr. F. Livesey (Scholarship in Anatomy).

INTERNATIONAL HOMŒOPATHIC CONGRESS.—This congress will be held in London next week. A meeting will take place at the Mansion House on Monday, July 18th, at 5 P.M., and there will be daily sessions at the Connaught Rooms, Great Queen-street, W.C. 2. The organising secretary is Dr. H. Fergie Woods, 93, Harley-street, W. 1.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.
TUESDAY, July 19th.—5.30 P.M., GENERAL MEETING OF FELLOWS: Ballot for election to Honorary Fellowship.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, July 18th, to SATURDAY, July 23rd.—FELLOWSHIP OF MEDICINE DEMONSTRATIONS. Fri., 5 P.M., Mr. W. H. McMullen on "Some Causes and Effects of Defective Vision in Children" at the Royal Westminster Ophthalmic Hospital. Open to all members of the medical profession without fee.—PARK HOSPITAL, Hither Green, S.E. Post-graduate course in Infectious Fevers. Wed., 2.30 P.M., and Sat., at 11 A.M.—WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck-street, W. Lecture-demonstrations daily, 5 P.M., throughout the month. Further information from the Secretary.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
MONDAY, July 18th.—2.30 P.M. to 5 P.M., Medical, Surgical, and Gynæcological Clinics. Operations.
TUESDAY.—2.30 P.M. to 5 P.M., Medical, Surgical, Throat, Nose, and Ear Clinics. Operations.
WEDNESDAY.—2.30 P.M. to 5 P.M., Medical, Skin, and Eye Clinics. Operations.
THURSDAY.—11.30 A.M., Dental Clinic. 2.30 P.M. to 5 P.M., Medical, Surgical, and Ear, Nose and Throat Clinics. Operations.
FRIDAY.—10.30 A.M., Throat, Nose, and Ear Clinics. 2.30 P.M. to 5 P.M., Surgical, Medical, and Children's Diseases Clinics. Operations.

ROYAL NORTHERN HOSPITAL, Holloway-road, N.
TUESDAY, July 19th.—3.15 P.M., Dr. C. Gouldesbrough: The Scope and Limitations in Modern X Ray Therapy.

WEST LONDON HOSPITAL, POST-GRADUATE COLLEGE, Hammersmith, W.
MONDAY, July 18th.—10 A.M., Mr. MacDonald: Genito-Urinary Operations. 11 A.M., Mr. Tyrrell Gray: Surgical Wards. 2 P.M., Mr. Donald Armour: Operations.
TUESDAY.—10 A.M., Medical Registrar: Ward Demonstration. 2 P.M., Mr. Sinclair: Surgical Out-patients. 3 P.M., Dr. Pritchard: Medical Wards.
WEDNESDAY.—10 A.M., Dr. Owen: Medical Diseases of Children. 12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Mr. Gibb: Eye Department.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Department. 2 P.M., Dr. Ironside: Medical Out-patients. 3 P.M., Sir Henry Simson: Gynæcological Ward.
FRIDAY.—10 A.M., Dr. Dowling: Skin Department. 2 P.M., Mr. Addison: Operations. Mr. Visto: Throat, Nose and Ear Department.
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy and Ward List. 10 A.M., Dr. Owen: Medical Diseases of Children.
Operations, Medical, Surgical, and Special Out-patients, daily, 10 A.M. to 5 P.M.; Saturdays, 10 A.M. to 1 P.M.

Appointments.

CAPPS, FREDERICK C. W., F.R.C.S. Eng., has been appointed Surgeon to the Ear, Nose and Throat Department, with charge of Out-patients, Willesden General Hospital.
FERGUSON, D., M.B., Ch.B. Glasg., Medical Officer of Health for the Burgh of Motherwell and Wishaw.
OWEN, DAVIES CHARLES, M.B., B.S. Lond., F.R.C.S. Eng., Honorary Assistant Surgeon at Stanley Hospital, Liverpool.
Certifying Surgeons under the Factory and Workshops Acts: MCCOOL, P., M.B., Ch.B. Edin. (Chepstow); JEFFERISS, I. M., L.R.C.P. Lond., M.R.C.S. (Totnes).

Medical Referees under the Workmen's Compensation Act (Metal Grinding Industries (Silicosis) Scheme): NAISH, A. E., F.R.C.P. Lond., BARNES, A. E., F.R.C.P. Lond., MACADAM, W., M.D. Glasg.; MARSDEN, R. W., M.D. Manch.; DICKINSON, W. H., M.D. Edin.; HEASMAN, H. W., L.R.C.P. Lond., M.R.C.S.; and BALL, L., M.D. Lond.

Vacancies.

For further information refer to the advertisement columns.

Bath, Royal United Hospital.—Asst. H.S. £100.
Beckenham Urban District Council.—M.O.H. and School M.O. £900.
Bedford County Hospital.—Asst. H.S. £130.
Bolton, Townleys Hospital, Farnworth.—Second A.M.O. £225.
Bradford Royal Infirmary.—Two H.S.'s, £150 each.
Brighton, Royal Alexandra Hosp. for Sick Children.—H.P. £100.
Buxton, Devonshire Hospital.—A.H.S. At rate of £150.
Cambridge, Papworth Sanatorium and Village Settlement.—H.P. At rate of £100.
Elizabeth Garrett Anderson Hospital, Euston-road.—Asst. Obstet.
Evelina Hospital for Children, S.E.—H.S. £120.
Exeter, Royal Devon and Exeter Hospital.—H.P. At rate of £130. Also Hon. Surg. Dentist.
Hertford County Hospital.—H.S. At rate of £150.
Hull Royal Infirmary.—Asst. H.S. £150.
Ilford Borough.—Chief Asst. M.O.H. £700.
Indian Medical Service.—Appointments.
Lewisham Hospital.—Asst. M.O. £300.
Liverpool Eye and Ear Infirmary.—H.S. £100.
Manchester, Ancoats Hospital.—Pathological Registrar. At rate of £100. H.P. At rate of £100.
Manchester Hospital for Consumption.—Hon. Anæsthetist.
Manchester City.—Asst. Tuberculosis Officer. £650.
Royal Free Hospital, Gray's Inn-road, W.C.—First and Second Cas. Officers.
Royal Northern Hospital, Holloway.—Med. Registrar. £100.
Royal Waterloo Hospital for Children and Women.—Hon. Radiologist. Hon. Gynæcologist.
St. Mary's Hospital for Women, Plaistow.—R.M.O. and A.R.M.O. £175 and £130 respectively.
Salford Education Committee.—Asst. School Med. Officers. £600 each.
Samaritan Free Hospital for Women.—H.S. At rate of £100. Also Hon. Surg.
Sheffield Royal Hospital.—Res. Ophth. H.S. At rate of £80.
Sheffield Royal Infirmary.—Hon. Asst. Ophth. S.
Staffordshire General Infirmary, Stafford.—H.P. At rate of £150.
West London Hospital, Hammersmith-road, W.—Res. Asst. S. £200.
Worcester County and City Mental Hospital, Powick.—Jun. Asst. M.O. £300.

Births, Marriages, and Deaths.

BIRTHS.

BLIGH.—On July 10th, at 74, Rodney-street, Liverpool, the wife of John Murray Bligh, M.D. Liverp., M.R.C.P. Lond., of a son.
KIDD.—On July 5th, at Leeds-road, Harrogate, the wife of W. Shirley Kidd, M.B., B.S., of a son.
MILLIGAN.—On July 4th, at Belle-avenue, Reading, the wife of H. J. Milligan, *M.C.*, M.D., of a son.
MORRIS.—On July 5th, at the Rectory, Stradbally, Co. Waterford, Irish Free State, the wife of Major C. R. Morris, D.S.O., R.A.M.C., of a daughter.
ROBERTS.—On July 5th, at a nursing home, Darlington, the wife of David R. E. Roberts, M.B., B.Ch., of a daughter.
THOMAS.—On July 4th, at Lancaster Gate, W., the wife of Dr. Cyril J. Thomas, of a son.

MARRIAGES.

GILCHRIST—SAMPSON.—On July 5th, at All Souls', Langham-place, London, W., Adam Gilchrist, M.B., Ch.B. Aberd., of Burslem, Staffordshire, to Winifred Mary Sampson, M.B., B.S. Lond.
HUNT—NICHOLAS.—On July 6th, at Southwark Cathedral, William Stanley Hunt, B.Chir. Camb., to Jane Gwyneth, eldest daughter of Mr. and Mrs. John Nicholas, of Llandovery.
MOORE—FERGUSSON.—On July 4th, at the Parish Church, Bushey, Richard Henry Moore, M.B., B.Ch. Belf., of Upper Wandle House, Wandsworth, to Helen Edith Fergusson, M.B., B.S. Lond.

DEATHS.

BAYLISS.—On July 6th, at Mountnessing Weston, Bath, Richard Arthur Bayliss, M.R.C.S. Eng., L.R.C.P. Lond., aged 60.
CAMPBELL.—On July 10th, at Clarendon-terrace, Dundee, Alexander Campbell, M.D., F.R.C.S., in his 86th year.
HULKE.—On July 1st, in London, Frederick Malcolm Stirling Hulke, M.R.C.S. Eng., L.R.C.P. Lond., aged 39.
SMYTH.—On July 2nd, at Apsley-road, Clifton, John Smyth, M.D. Colonel, I.M.S., aged 69.
THOMAS, THELWALL.—On July 7th, 1927, at Verdala Tower, Allerton, Liverpool, Anabel Roxburgh, the wife of W. Thelwall Thomas, Surgeon, and daughter of the late Alexander Spence, of Huntly, Aberdeenshire.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Comments, and Abstracts.

PUBLIC HEALTH IN SHANGHAI.

IN a recent account of the health of the British troops in Shanghai (THE LANCET, 1927, i., 1319) mention was made of the work being done by the municipal department of public health. This department has now published its annual report for 1926, containing a review of the sanitary conditions prevalent in the foreign settlement. At Shanghai there are, on the one hand, over 800,000 Chinese and 23,000 foreigners living under the ægis of a well-ordered international municipal council; on the other, a larger mass of natives (1,150,000) living in overcrowded insanitary conditions under Chinese jurisdiction. A comparison of the two systems shows a glaring inequality.

The two leading features of the year were an exceptionally hot and humid summer with a rainfall of 51·89 inches and an outbreak of cholera which became epidemic during July, when it reached its peak, 692 cases being notified. Virulent scarlet fever occurred throughout the year, and small-pox prevailed till the end of July, after which, curiously enough, not another case was notified. Shanghai maintained its freedom from plague epidemic; one plague-infected rat was found and, as in former years, no time was lost in carrying out intensive anti-plague measures. There were two fatal cases of anthrax, attributed to cheap shaving-brushes.

The deaths of 615 foreigners were reported, giving a rate of 20·12 per 1000 as compared with 16·24 in 1925. The majority of the deaths (62·9 per cent.) occurred among Asiatics other than Chinese, 55·4 per cent. being Japanese. The principal communicable diseases accounting for the increased death-rate were typhoid fever, amœbic dysentery, acute diarrhœa, small-pox, scarlet fever, and measles, a noteworthy feature being the great increase of deaths among children between the ages of 1 and 5 years. Altogether 12,326 Chinese deaths were recorded, compared with 8936 in 1925, giving a death-rate of 15·35 per 1000, the highest rate since 1914. This points to the fact that Chinese are the prey of adverse climatic conditions to the same extent as foreigners.

The report gives a number of detailed statistical tables showing the close track that is kept of the incidence of disease and the causes of death. Every effort has been made to obtain the compulsory registration of medical practitioners, of whom there are 145 (including 24 British), but the council has as yet no legal authority to enforce this. A system of voluntary registration has been evolved by the help of which the public health department can have more definite information as to the number of births and deaths and the notification of communicable diseases; 713 cases of notifiable diseases among foreigners were reported voluntarily.

As is well known small-pox is endemic in China, but though frequent warnings are issued concerning the serious danger of bringing unvaccinated employees to the East, this advice is often ignored. A total of 48,824 vaccinations was performed by the public health department and there were 38 cases of small-pox among foreign residents with 12 deaths; eight of those who died had not been vaccinated, one had been vaccinated in 1901, one was vaccinated three days before the onset of the disease, whilst in the remaining two cases there was no reliable history. There were 31 deaths from typhoid and paratyphoid among foreigners, besides 20 fatal cases of amœbic dysentery and seven of bacillary dysentery; 27 cases of diphtheria and 132 cases of scarlet fever among foreigners were notified, and in both diseases it was observed that the outbreaks were most prevalent from January to June and waned with the advent of hot weather.

Cholera has been prevalent 14 times during the past 24 years, but shows no evidence of cyclical periodicity. It is noteworthy that when absent in Shanghai it has been epidemic in other parts of China, notably in districts affected by famine. Cholera is endemic in the Yangtze Delta, a vast plain several thousand square miles in extent, with a population of over 20 million people, Shanghai being the most thickly populated area in the Delta. A network of tidal and semi-tidal creeks drains into the Huangpu River on the banks of which Shanghai is situated and the difficulties of the situation are thus greatly enhanced, for the International Settlement is completely surrounded by territory over which it has no jurisdiction. Altogether 3216 cases were notified and of this number 76 were among foreigners, and in 57 the diagnosis was confirmed by bacteriological examination. The most intense focus of infection in the International Settlement adjoined the Chinese district of Chapei. The water-supply of the Chapei Waterworks Company came under suspicion and samples from the intake, the filter beds, and the taps from the mains were

examined in the municipal laboratory of the International Settlement. In every case cholera vibrios were found to be present. Prompt measures for the purification of the Chapei water-supply were immediately followed by decline of the epidemic.

Of 228 specimens of blood examined for malaria only 31 gave positive results; all the parasites found belonged to the benign tertian group. This disease seems to be uncommon in Shanghai, but with the advent of so many troops from India this year it will be interesting to note if there is any increase in malarial infection, and if malaria of other types will become manifest when the mosquito season begins this month.

A large number of chemical (2905) and bacteriological (10,206) analyses and examinations were made. Water, milk, foods, and liquors are frequently tested for purity. The report concludes with accounts of the hospitals, gaols, and markets which come under the purview and close supervision of the Commissioner of Public Health, Dr. C. Noel Davis, and his staff. Of recent years there have not been wanting signs that the Chinese authorities have been willing to learn the lesson at their doors as to the benefits arising from efficient public health measures, but the frequent changes of Government have, for the present at any rate, resulted in a state of chaos in which there is neither time nor room for any thought about the health of the people outside the Settlement.

THE TRAINING OF DEFECTIVE CHILDREN.

ON July 5th Madame Montessori gave a lecture in Italian —which was translated by an interpreter—on the Training of Defective Children, in aid of the Royal Free Hospital Appeal Fund. In her opening words the lecturer stressed the fact that the education of the mentally deficient child did not differ fundamentally from that of the normal one. She explained how her own research had been undertaken first on behalf of the mental deficients, and how many of the discoveries she had made, such as the importance of touching and handling as aids to learning, had proved of equal value to all. But whereas the normal child could learn and develop in spite of unfavourable environment, the mentally defective could not, just as the deaf child would also be dumb without specialised speech training. It was of particular importance to take advantage of the "sensitive periods" in the child's mental life, and to employ most careful and thorough indirect preparation for each step onwards throughout his education. Graphs were shown illustrating the progress of children in an institute under the Montessori system. These made it plain that a high level of achievement was maintained throughout, as distinct from the irregularity shown under other systems. Madame Montessori maintained that a high percentage of mentally deficient children were eventually capable of filling a useful place in the world.

WANTED—AN EXPLANATION.

To the Editor of THE LANCET.

SIR,—The case cited by Dr. A. T. Schofield in your issue of July 2nd (p. 52) interests me greatly, and I put forward what seems to me a quite feasible if not probable explanation. During the days following the accident the wound apparently went through the ordinary process of healing, with the usual subsequent formation of scar tissue. Normally the nail takes about nine months to grow from base to tip. I suggest that, in this case, as the nail grows forward the vis-a-tergo is not strong enough to force the nail onward against this obstruction of the fibrous barrier. The growth of the nail is thus arrested until the distal portion is shed. The distance of the lesion (about a quarter of an inch) from the tip of the finger determines the regular intervals of recurrence.

I am, Sir, yours faithfully,

E. HOPE JOHNSON, M.R.C.S.

West Middlesex Hospital, Isleworth, July 6th, 1927.

A USEFUL DIRECTORY.

WE are always glad to see an up-to-date copy of Webster's Royal Red Book, the 269th edition of which was published in January and the 270th in May. All possible care is taken, it is stated, to ensure correctness, and it is convenient not have to wait 12 months for a new issue. There is a street guide, an alphabetical list, and lists of Members of the House of Peers and House of Commons, of Government offices, and of public societies and institutions. A special feature is a large section containing plans of well-known London theatres. There are many useful advertisements in the handbook and a selected list of Royal Warrant holders; but we should hardly be likely to find among them such a one as we saw in the 1837 edition of Boyle's Court Guide (now incorporated with Webster's Royal Red Book) in which a man claimed the title of "Bug Catcher to His Majesty" (William IV.).

NATURAL SUN-THERAPY IN ENGLAND.

THERE is general agreement that exposure to the rays of the sun exerts a beneficial action upon surgical forms of tuberculosis. There is less unanimity about its value in pulmonary tuberculosis, and owing probably to the difficulty in selection of suitable cases, and the ease with which an overdose can be administered, sunshine is regarded in many quarters as useless or even harmful in the treatment of consumption. Experiments carried out by Dr. J. E. Wood at the Bramshott Sanatorium for Sailors have, however, led to such encouraging results that the Seamen's Hospital Society have decided to arrange for a further trial of the method. They have accordingly built and equipped a large ward, with walls of Vita glass, at their sanatorium, so that controlled sunning may be carried out at any time of day and at any season. Shelter from wind and shower is thus provided without restriction of the limited sunshine that this country enjoys. It is hoped that not only will the merchant seaman derive benefit therefrom, but useful data will be collected regarding the possibilities of using sunshine and skyshine in this country in all forms of tuberculosis and in all classes. The new ward will be formally opened by Admiral Sir Montague Browning on Monday next, at 3.30 P.M.

THALLIUM ACETATE.

IN the official bulletin for 1927 of the Department of Health of Mexico Dr. Margarita Delgado describes experiments to determine the effects of thallium salts on the animal body and especially their toxic dose, oral and hypodermic. The salt used was the acetate, mixed with some oxide; the mixture takes up water rapidly, which perhaps accounts for the differences in the toxic dose met with by various observers. Doses of 0·014–0·018 g. per kg. of body-weight were toxic to animals, but doses of 0·008 g., which is the maximum employed therapeutically, had no ill-effects. Doses of more than 0·014 g. per kg. were almost invariably lethal to rabbits and guinea-pigs, the main lesion being an acute tubular nephritis; with doses between 0·014 and 0·012 g. the animals lived for a time, but showed loss of weight, depression, vomiting, lowered temperature, and slow pulse, besides renal inflammation.

METEOROLOGICAL PORTENTS.

To the Editor of THE LANCET.

SIR,—Time was when meteorological portents influenced the world largely and the occurrence of eclipses or the presence of comets was assumed to be of the first interest in the affairs of the world. It is permitted to wonder whether the influence of these portents still remains. The tropical storm which visited London on Monday last fell on a date when certain world changes had been prognosticated to occur. First, a statement had been issued by a certain religious community that the Second Advent was due on July 11th; secondly, that date corresponds, or is believed to correspond, with some date foretold by the measurements of the Great Pyramid, and these measurements have been assumed to foretell great changes in the spiritual progress of the world; thirdly, July 11th was the date fixed for the opening of Joanna Southcott's box.

Obviously the information concerning the Second Advent was inaccurate; and as I am ignorant of pyramid lore and of what the revelations of Joanna promised, I cannot guess how far the promises have been followed by performances. But the contents of Joanna's box must have blown on her reputation as a religious seer, assuming that any shred of that reputation was remaining.

I should be greatly interested to learn if there has been noted any marked disturbance in the mental condition of patients either in our lunatic asylums, in our hospitals, or under private care, owing to the fact that on the date when vast and various events were anticipated by romantic persons the portent occurred of a sudden and furious storm. There is reason for thinking there may have been such cases.

I am, Sir, yours faithfully,

July 12th, 1927. METEOROLOGIST.

IN his annual report for the year 1926 Dr. F. J. Waldo, senior coroner for London, again remarks on the increase of deaths ascribed to anæsthetic ether. He suggests that an analyst's certificate of purity should accompany all ether sold for inducing narcosis. He points out the need for pure ether to be delivered to hospitals and anæsthetists in light-proof packings in order to prevent the formation of deleterious impurities; his impression is that the decomposition of ether under the influence of light is a point with which medical men are imperfectly acquainted. He repeats his recommendations of (1) compulsory notification to the coroner of all deaths under the influence of an anæsthetic, wherever they occur, and (2) the nomination by the Home Office of a small research committee of experts to coöperate with coroners in inquiries regarding death under the influence of an anæsthetic.